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THE COVER: As Alan G. Nelson writes, "Prairies, mountains, hills, lakes, ponds, national parks and national wildlife refuges are areas I encourage all people to seek out and appreciate . . . Take a little time to make observations and you will be justly rewarded. . . ." His front cover photograph of an elk provides a reward for *Montana Outdoors* readers and proof of his skill in observing those details so essential to outstanding wildlife photography. For his photo essay, "The Rewards of Observation," turn to page 18. Jon Cates' back cover photograph of two whitetails will signal November on the 1980 *Montana Outdoors* Wildlife Calendar. At only $4 per calendar, it's the sort of gift that can provide an inexpensive answer to your Christmas gift list problems.

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The Editor's Column

Lord knows, she wasn't perfect. But no retriever ever hit the water harder, or hunted the uplands with more enthusiasm. Bullet was three years old when I got her—silky-coated, long-legged and high-spirited—on the big side for a female black Lab. Enthusiastic to a fault, she could knock over two field trial judges to retrieve a bird thrown for another dog faster than any dog I ever saw.

She could also be a little bit stubborn. To her dying day, she was convinced she knew more about where to find birds in any piece of cover than I did and, for the most part, she was right. Hunting upland birds with Bullet was like running the Boston marathon with hunting boots on; she had definite opinions on how to put skulking rooster pheasants in the air: charge through the brush at full throttle with me a distant second.

But the ultimate test for retrievers is their performance in the water—that's what they are bred for and that's what separates the men from the boys of the retriever world. Most dogs, purebred and otherwise, will jump into the water on a warm summer day to fetch a stick. Many hunting dogs will retrieve ducks in early autumn before the days turn brittle-cold and the lakes and ponds begin to ice up around the edges. But only the true retrievers—and precious few of those—will work all day in the icy water of November and December, when slush begins to choke the rivers and the mercury drops to zero or below. By then, all the fair-weather Nimrods who brag about their dogs' undying love of water have disappeared from the scene. For no dog can truly love the dark, menacing current of a Montana river in December. Dogs no longer enter the water because they like it, but because they love to retrieve ducks and have been trained to do so under any circumstances.

There are times in duck hunting when a bird will fall on the far side of a river or pond and, for one reason or another, your dog won't see it fall. Then the dog is faced with the most difficult of retrieving tests, referred to as a "blind" retrieve by field trialers. The dog must enter the water on your command, swim in a straight line until you whistle it to stop, then follow your hand signals until it locates by scent a bird it has never seen. Few dogs enter the water cheerfully on a blind retrieve, even in August. No dog enters the water cheerfully on a blind retrieve in December. At that point it takes more than pedigree and price tag; it takes heart and courage—qualities you can't instill in a dog, but can only hope are there from the start.

Bullet never refused a blind retrieve during the many cold, stormy days of early winter on the Flathead, the Bitterroot, the Red Rock, the Swan, the Judith and countless ponds and sloughs between. Sometimes she was cold and tired, and sometimes she was frightened, but she always went.

I remember a day on the Judith in late November with the temperature below zero and a strong north wind spitting snow. My hunting partners had winged two mallards that made the far side of the river. Walking with me, Bullet hadn't seen them fall. But she fought the current and slushy ice to retrieve them both, and would have gone again had it been necessary. When she returned with the second mallard, her eyes were nearly frozen shut, but she didn't seem to mind. After I held my hands over them to thaw the ice, she rolled in the snow to dry off and she was ready to go hunting again.

* * * * *

Bullet died last spring, leaving an emptiness in my house and heart that never will be completely filled. She may not have been a field trial champion, but she was a far better retriever than I am a hunter, and I miss her more than I can say. At first, I resisted buying another dog. But I knew deep down that when the November storms began to push the great flocks of waterfowl south again, I would be drawn irresistably back to the marshes and rivers. For me, duck hunting without a dog is not duck hunting at all.

So in July I went to pick up Maggie, a sassy black Lab puppy who somehow combines the water antics of an otter with the clumsiness of a bear cub. Not too long ago, she retrieved her first duck, a beautiful drake mallard that I dropped in plain sight for her. She was quite proud of herself, and I was proud of her too. Although she's still an unknown quantity, she has all the makings of a good retriever. As I watched her basking in the waning October sun, I thought about how some wintry day a few years from now, when smarter people are home by a warm fireplace, I'll shoot poorly and sail a duck across some ice-choked river. I'll curse my poor shooting and my worse luck, but when I'm done, there will still be just me, the dog, the river and a duck on the far shore. Before I ask her to cross, I'll say a fervent prayer. And if she goes, I'll consider myself richer than any king.—*Dave Books*

graphics: Larry Thompson

Country Gentleman

DECOYS: AMERICAN ORIGINALS

by Larry Roberts and Roger Fliger

MORE THAN 1,000 YEARS AGO, the native American hunter recognized that an ample source of food existed on the nearby marsh, if only he could find a way to get close enough to utilize his skills. After attempting for days to capture waterfowl, imagine his frustration at returning to camp empty-handed. Then one day, he noticed the birds usually went to other birds, and an idea was born.

He fashioned mounds of mud along the shoreline to resemble waterfowl and hid in the reeds to see what would happen. When he walked into camp this time, he was proud, for hanging from his lanyard were three freshly killed waterfowl. As time passed, decoying skills improved and native Americans were able to lure wild ducks within range of their primitive weapons by using improvised or wholly artificial birds.

continued

Many early decoy carvers became legendary; their working decoys are sought today as American art objects (left photo: Alicia Pryor). Roger Fliger (below), the department's supervisor for the Billings region, retouches a goldeneye decoy from his collection (photo: Alicia Pryor). Hunting of golden plovers, along with most other shorebirds, was outlawed early in the 1900s. Shorebird decoys, such as these golden plover decoys (right) made of tin, are especially rare and valuable today. Shown with the original box, these decoys came from Maryland (DFWP photo: Bill Pryor).

Ancient remains and our knowledge of surviving customs enable us to trace the evolution of these decoying devices. The most primitive were the mud heaps already described, roughly simulating a group of birds. Equally crude were bunches of dried grass supported on sticks. Another early artifice—a favorite tactic—was displaying dead birds in various attitudes.

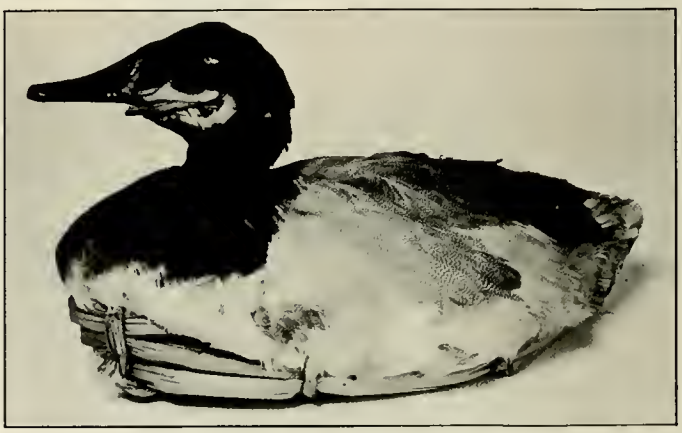
After these, decoys of a more permanent sort appeared. The first utilized mounted heads of waterfowl to attract other waterfowl to shore. Later, bird skins stuffed with dried grass and mounted on floats were used on deep water. Finally, the wholly artificial decoy appeared and ancient examples of these are a matter of historical record. In 1924, scientists discovered 11 perfect examples of these aboriginal decoys while excavating for evidence of ancient native American culture in the southwestern United States.

Found with other objects in Lovelock Cave in Nevada, the decoys were attributed to a vanished civilization called the "Tule Eaters," predecessors of the northern Paiutes. The decoys, protected by a basketlike container, were found about four feet below the floor of the cave. Due to climatic conditions similar to those of Egypt and Peru, the specimens were perfectly preserved. Whether the cave was used as living quarters or for storage is unknown. But, to quote from the archaeological report of the expedition, perhaps "some wildfowl hunter had hidden his decoys against another season."

The find comprised decoys of two kinds: completely artificial birds made of tule and those made from stuffed or mounted skins. The wholly artificial birds included canvasbacks of most ingenious construction. The body was formed by bending a bundle of 25 or 30 large tule stems and binding them together. The ends were then cut off to simulate the duck's tail and a head was cleverly constructed of rushes and smoothly bound with the same material split, then sewn to the body, with evident care taken to attain a realistic pose. To complete the decoy, the head, breast and tail were painted with black and reddish-brown hues and the body was covered with white feathers, the quills of which were stuck under the breast wrappings or held fast with a fine hemp cord. These wholly artificial decoys represented ducks only.

Ducks, geese and other waterfowl were imitated by the stuffed decoys, which were no doubt easier to make (and which are still made by the northern Paiutes). The body of the stuffed type was made in approximately the same way as the wholly artificial type, but the breast was not bound. Instead of a rush head, a sort of rush stub or nipple projected from the body to which a complete stuffed head was fastened, with the skin, feathers and beak intact. Sometimes there was enough body skin attached to the head to cover the rush body, but usually it had to be supplemented by small bunches of feathers. Some of the ancient decoys still show a loop of cord on the breast for attaching an anchor; one even had a short, loose end tied to the middle of a bit of quill, which probably served as a toggle for attaching an anchor cord. Bits of cord on the ancient duck decoys indicated that these aboriginals used floating lures, just as we do today.

Long before the general use of firearms, Europeans employed live birds to entice wild waterfowl and then



In 1924, scientists discovered 11 ancient decoys while excavating for evidence of early native American culture in Lovelock Cave, Nevada (right). Estimated to be 2,000-3,000 years old, some of the decoys were made of tule stems and were wholly artificial (above). Others were made in approximately the same way, but were covered with the head and skin of a canvasback duck (below). Made by a vanished civilization called the "Tule Eaters," the specimens were perfectly preserved in the dry climate of the cave (photographs courtesy of the Museum of the American Indian, Heye Foundation; New York, New York).

captured them with nets. Descriptions of artificial birds in connection with Old World fowling do not appear in published records until after the middle of the 19th century, so it is intriguing to learn that the Lovelock Cave decoys have been scientifically dated about 1000 A.D.—or nearly 3,000 years old. Other scientists estimate the age of the decoys at about 2,000 years. Most scholars, scientists and art experts therefore contend that making decoys is truly an American art form.

With development of civilization along the Eastern Seaboard and western expansion, waterfowl became an abundant and easily obtainable source of protein. Nearly every form of bird life—passenger pigeons, ducks, geese, swans, even songbirds—were imitated to attract birds closer to the waiting hunter.

The demand for waterfowl grew with the swelling population. No longer were birds taken for mere subsistence, but appeared as entrées on the menus of the best inns and eating places of the time. Then, a large secondary market appeared. Ladies fashion demanded quantities of feathers from egrets, cranes and other birds.

The market hunter could often make two profits from his kill and birds were harvested in huge numbers to satisfy both palate and fashion.

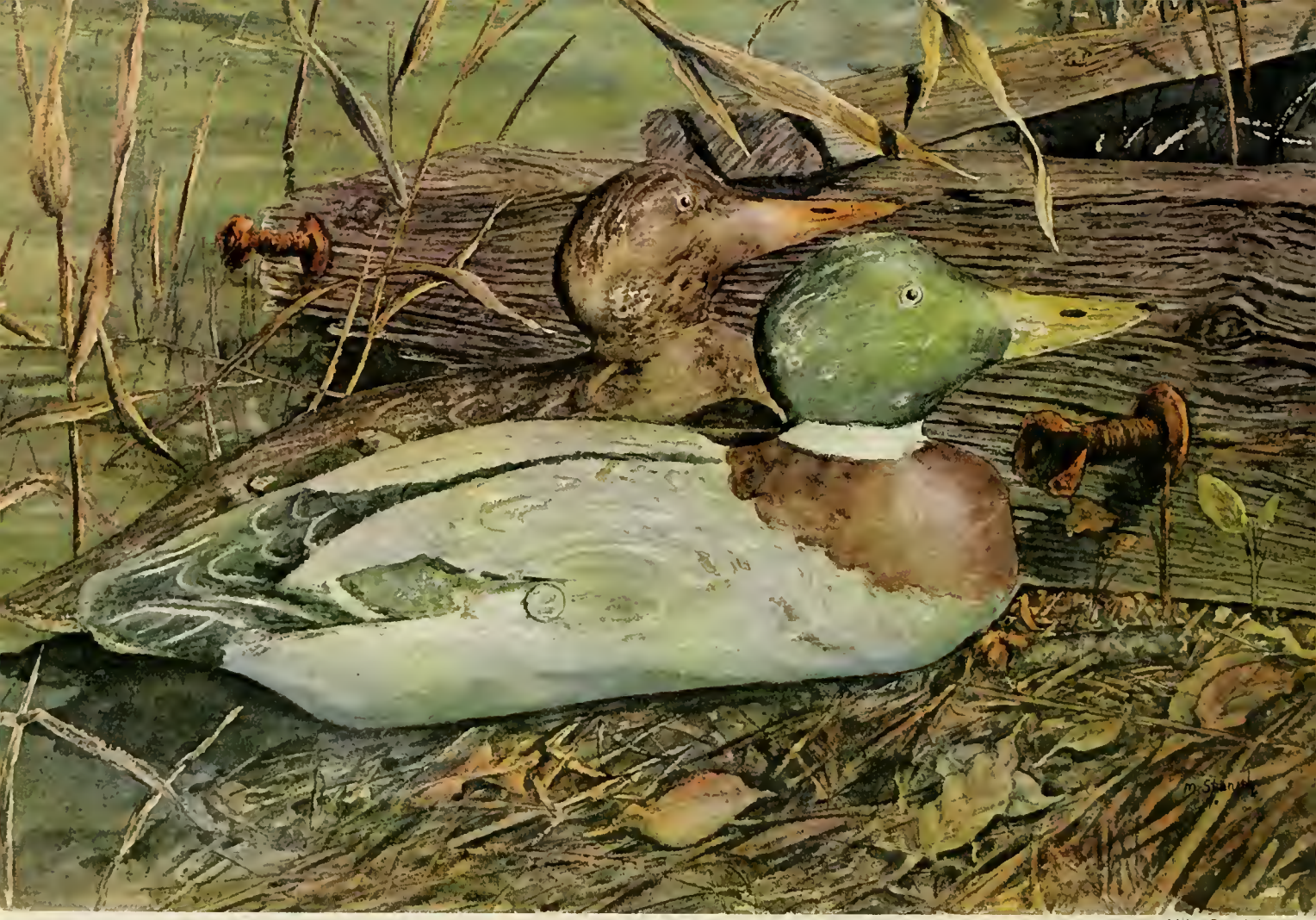
Methods of taking waterfowl were perfected that stagger the imagination. Baiting areas to congregate birds was common. Shotguns resembling small cannons (punt guns) were mounted on boats and fired into masses of birds. Live decoys were used. Shrinking habitat, netting, trapping and shooting day and night during all seasons had its effect; by the late 1800s, some species were appearing less frequently and in dwindling numbers.

During this period, hunting for sport became an important chapter in wildlife history. A diverse group of recreationists found an exciting sport in the marshes and sloughs and developed a code of ethics that eventually led to state and federal regulations. Shooting hours, bag limits and seasons were established along with regulations prohibiting baiting, live decoys and selling game birds. This spelled the end of the market hunter era.

With use of live decoys outlawed, even more emphasis was placed on wooden decoys, and those interested in serious bird hunting often spent the long winter months carving, sanding and painting. Many of them became legendary and their working decoys are sought by antique dealers and collectors as American art objects. Many materials were used to fashion decoys: ship spars; telephone poles; railroad ties; balsa and cork; natural woods from cottonwood, sugar pine and basswood trees; cedar, cypress and tupelo gum from the South, and redwood from the West Coast. Some areas were famous for "rootheads" or naturally formed roots used to resemble waterfowl or the necks and heads of shorebirds. Numbers of decoys produced were amazing even by today's standards—some carvers produced from 25,000-50,000 decoys during their lifetimes.

As the years passed, decoys began to become more specialized according to what their use was. Huge "batteries" of decoys made from ship masts were often used in single "rigs" on large bodies of water. Small, hollowed-out decoys were used when the gunner had to stumble through the darkness and damp to a tiny "hole" in an oak or a cypress swamp.

continued



painting: Mike Stanish

Several decoy makers trained relatives and helpers in order to produce even more decoys. A few of the prominent makers were the Mason Decoy Co., Detroit, Mich.; Wildfowler, Old Saybrook, Conn.; Evans, Ladysmith, Wis.; Animal Trap Co., Pascagoula, Miss.; Herters, Waseca, Minn., and many others. These decoys found their way into every nook and cranny of the world and can still be found occasionally in flea markets, antique shops, garage and rummage sales and even in active use. Since Montana was primarily thought of as a big game state, few decoys were ever made here.

World War II signaled the end to almost all making of wooden decoys. Materials like papier-mâché, plastic and rubber could be easily molded into decoys with a fraction of the time, energy and expense. With a sigh of relief, many of the heavy oldies were used to start the furnace or considered not worth chopping out of the ice. A few favorites were put up on mantles or given to the grandchildren for playthings. An era had passed. Few grandchildren could appreciate the pain of a dozen "Masons" bouncing on one's back on the long walk to the blind or the joys of retrieving a pair of mallards fooled by the well-placed "deke." Today, classes are taught on the history of the decoy and decoy makers. This heightened interest has encouraged a few of the old makers to go back into the business of making wooden decoys, and many new carvers have appeared on the scene.

How do wooden decoys compare with their plastic modern counterparts? Jack Musgrove of Des Moines, Iowa, author (with Mary R. Musgrove) of "Waterfowl in Iowa" and winner of many national awards for his carvings, stated, "Hollow, wooden decoys properly weighted will ride in the water like a live bird. Watch the various modern decoys roll, skid, pitch, bounce and do everything that live birds do not do." We won't disagree; his hunting success is proof enough. ■

* * * * *

• *An article describing how to make and use decoys will appear in a later issue of* Montana Outdoors. *In addition, the authors are interested in learning about Montana decoy carvers, both past and present. Write Roger Fliger at the Department of Fish, Wildlife and Parks, 1125 Lake Elmo Drive; Billings, MT 59101 or Larry Roberts at 1523 Second Ave. N.; Great Falls, MT 59401.*—Ed.

ADDITIONAL READING

Barber, Joel, "Wild Fowl Decoys," published by Dover Publications, Inc.

Earnest, Adele, "The Art of the Decoy; American Bird Carvings," published by Bramhall House.

Mackey, William J., "American Bird Decoys," published by E. P. Dutton & Co.

Montana's Fur Trade: Living History

by Howard Hash

THE EARLY FUR TRADE and associated activities profoundly influenced the exploration, settlement and destiny of what is now Montana. After members of the Lewis and Clark Expedition reported abundant beaver populations along most of the streams in the Yellowstone and Missouri River drainages, a fur trade quickly developed.

The European demand for pelts for manufacturing high-quality beaver felt hats, and dwindling beaver populations east of the Mississippi combined to make the new, fur-rich wilderness compellingly attractive. The beaver that thrived in this vast territory produced the finest fur available and it brought premium prices on the international market. Otter, mink and muskrat also yielded desirable pelts and buffalo and bear hides were easily marketable.

St. Louis, at the mouth of the Missouri, was the undisputed center of the fur industry from 1807-43. From there, most wilderness expeditions set forth and trade goods entered the world market.

In Montana, trading in furs was limited before 1806. British and French parties from Canada conducted a few trading expeditions into the upper Missouri. Exploration and harvesting furs began in earnest in 1806 when John Colter, an outstanding private soldier, requested and received an honorable discharge from the returning Lewis and Clark Expedition. He received his discharge at the Mandan villages in present-day North Dakota, where the explorers had spent the first winter of their campaign. The day before, Colter had met two dedicated hunters bound for the upper rivers. This perhaps prompted his request for discharge so he could winter and hunt in the beaver-rich territory. (Colter and the two hunters probably wintered in the Yellowstone River Valley.)

In spring 1807, Manuel Lisa, an energetic and perceptive entrepreneur of Spanish ancestry, formed the Missouri Fur Company and organized the first fur expedition into the upper Missouri. George Drouillard, the brilliant interpreter and hunter from the Lewis and Clark Expedition, was Lisa's chief of operations. The Lisa party moved slowly as the heavily laden keelboat containing trade goods and provisions ascended the troublesome Missouri. Near the mouth of the Platte River in present-day Nebraska, Lisa met the knowledgeable and experienced traveler of the upper Missouri, Colter. Traveling alone in a small craft, Colter abandoned his downstream trip and eagerly joined Lisa's party. Lisa skillfully and diplomatically conducted the expedition through potentially perilous situations with the Arikara, Mandan and Assiniboin tribes.

The group continued up the Missouri and the Yellowstone rivers to the mouth of the Bighorn. Here, in the heartland of the Crow Nation, the first American

The artwork appearing with this article is by artist Richard Timm; reproduction is from the originals provided by Nature House, Inc. of Griggsville, Ill.

trading post on the upper Missouri and the first building in present-day Montana were constructed, Lisa's Fort or Fort Manuel. Trading and trapping operations were quickly started. Lisa returned to St. Louis in spring 1808 with bountiful results of the winter activities and optimism about prospects for his future success.

In spring 1809, a second and larger expedition—comprising about 150 men and enough supplies to establish five or six trading posts—departed from St. Louis. The group intended to winter at Lisa's fort at the mouth of the Bighorn and to expand trading and trapping to the remarkably beautiful and fur-rich area around the Three Forks of the Missouri.

A strong party guided by Colter, including two of Lisa's business partners, Pierre Menard and Andrew Henry, arrived at the Three Forks in March 1810. They quickly built a fort between the Madison and Jefferson rivers and by April were engaged in productive trapping efforts. It was a virgin area very wealthy in furs and their early success was most encouraging; however, the trappers had no way of knowing their period of prosperity was to be brief.

On the morning of April 2, the powerful Blackfeet suddenly attacked an isolated group of trappers. Five men were killed and their horses, traps, guns and furs taken. The Three Forks party was attacked at least twice more by the Blackfeet that spring and, in early May, Drouillard was killed. After realizing the attacks would continue and considering the low morale of the men, Menard took a party down river to St. Louis with the accumulated pelts.

Henry spent the summer of 1810 in the general area with a few of the original party and lost at least one man during an Indian attack. Grizzly bear encounters were also a serious problem. Successfully establishing a post and developing adequate support trading and trapping was impossible with the available means. So Henry took his men from the dangerous Three Forks area, headed south across the Continental Divide and established a small post on Henry's Fork (named for Andrew Henry) of the Snake River. His stay was short, and he probably descended the Yellowstone and met Lisa along the middle Missouri in 1811.

The fur trade was pursued in other areas of the Montana Territory. Most notably, in 1808, David Thompson directed Canadian trading operations of the North West Company into what is now northwestern Montana. Lt. Finan McDonald built Kootenai Post near present-day Libby and a post on the Clark Fork where Thompson Falls is today. The Canadian efforts in northwestern Montana prospered until the fur trade ended. Business was both a peaceful and successful operation compared with the Missouri and Yellowstone efforts of the St. Louis companies.

The war of 1812 took men and resources away from all aspects of the fur trade. By 1813, the Missouri Fur Company had reorganized and its activities were greatly curtailed until 1821 when the company was again revitalized. After the death of the stalwart leader, Lisa, Joshua Pilcher became the new director.

Pilcher enthusiastically began to revive the trade in the upper rivers and he re-established the post at the mouth of the Bighorn. A large party led by Jones and Immel was very successful during 1822 and delivered pelts to St. Louis valued at $25,000.

About 12 years had passed since Henry departed the upper Missouri under the unrelenting pressure of continued attacks from the Blackfeet and grizzlies. Time's passage had dulled sad memories, healed old wounds and set the stage for a renewed attempt at obtaining the coveted fur harvest from the headwaters area.

Early in spring 1823, Pilcher sent Jones and Immel to lead a large and well-equipped party from the mouth of the Bighorn to the Three Forks. They arrived without incident and began to trap. But the Blackfeet had quickly learned the tricks of the fur trade—they had trapped in the area extensively and the beaver weren't as plentiful as they had been 12 years before. Most of the Blackfeet furs went to British traders in the North.

Bound for the lower Yellowstone, the party left the area on May 16 with about 35 packs of beaver pelts. They hadn't encountered any Indians until they began to descend the Jefferson River. Here, they met a party of 38 Blackfeet that was uncommonly friendly. The Indians spent the night and left the following day in apparent friendship. Immel and Jones hastened their departure, quickly reaching and descending the Yellowstone. The trappers did not know that the seemingly friendly Blackfeet were actively pursuing them and planning an ambush.

On May 31, 1823, about 400 Blackfeet attacked the 29 trappers in a narrow passage between the Yellowstone River and an undercut bank near the mouth of Pryor Creek. Immel and Jones were quickly killed. Five other men were killed, four were wounded and the horses, traps, guns and pelts were taken. This turn of events essentially ended any serious attempt to establish the fur trade in the upper Missouri. Several companies tried—with the disasters inherent to a perilous enterprise. The American Fur Company, under leadership of John Jacob Astor, emerged as the dominant firm through the 1830s.

Above the mouth of the Yellowstone, the Missouri beckoned. The Musselshell, Milk and Marias rivers were important and many traders tried to reach the headwaters by ascending the Missouri, rather than the Yellowstone. The area above the Great Falls of the Missouri was occupied primarily by the hostile Blackfeet and no significant posts were ever established. An important post, Fort McKenzie (later called Fort Benton), was built in 1832 near the mouth of the Marias and extensive trade was conducted with the Piegan Indians, a friendly band of the Blackfeet Nation. Two other important posts persisted for several years. Fort Union was built from 1828-30 at the confluence of the Missouri and Yellowstone rivers. It was an especially well-built facility that occupied a strategic location and received a large portion of the fur trade. Fort Cass evolved in 1832 from a succession of posts at the mouth of the Bighorn River and drew much trade from the Crow Nation.

Successful steamboat travel to the upper Missouri in 1831 marked a new era in the trade and exploration of present-day Montana. The steamboat was an important part of the Missouri's traffic until it was replaced by

more efficient railroad transport. Steamboats navigated to about 37 miles below the Great Falls—224 miles down river from the Three Forks.

By 1834, the fur trade was starting to decline. Silk hats were gaining popularity in Europe, and beaver felt hats were no longer fashionable. In 1837, vessels of the fur trade carried smallpox to the Indians. The Mandans were obliterated and the Assiniboins died by the hundreds; thousands of Blackfeet died and their strength was forever broken. Since the various tribes were important suppliers of pelts, this contributed to the decline of the fur-trading industry. From the 1850s to the 1900s, lack of market demand, increasing settlement, homestead activity, the Indian wars and the discovery of gold further obscured the fur industry.

Now that we have followed the history of fur trading in Montana, it might be interesting to learn how furs were obtained and something of the industry's economics. Three primary methods of obtaining furs rapidly evolved during the early years of the industry: (1) As already mentioned, directly trading goods to the various Indian tribes produced the largest volume of assorted pelts. (2) Several fur companies hired trappers and hunters to kill buffalo and trap beaver and other fur-bearing animals. The pelts became company property. (3) The free trapper worked for himself collecting furs. They were usually exchanged for necessary manufactured goods at a trading post or spring rendezvous; such events also provided a generous allocation of drinking, gambling and robust merriment.

The average hunter-trapper earned $400 per year and the average catch was 120 beaver and assorted furs. The beaver pelts brought from $4-$10 per skin; buffalo, $3; otter, $4; raccoon, 25 cents, and muskrat, 20 cents. The manufactured goods essential to the hunter-trapper included gunpowder at $1.50 per pound; lead, $1 per pound; three-point blankets, $9 each; cloth, $1-$6 per yard; beaver traps, $9-$16 each; horseshoes and nails, $2 per pound; choice tobacco, $1.75 per pound; bridles, $7 each, and rum, $13.50 per gallon.

The average value of the St. Louis fur trade during its nearly 40 years of operation was between $200,000 and $300,000 annually. About half of this money was probably generated by furs that came from Montana. On the other side of the coin, the nature of the fur trade was one of danger and calamity. Between 1806-43, about 300 lives and $200,000 in property was lost to hostile Indians and riverboat mishaps.

The value of the Canadian fur trade conducted in northwestern Montana was probably somewhat less; however, it was still a significant industry.

This brief review of the early Montana fur trade provides some necessary perspective and background when considering recent events in an industry that today is thriving. Few, if any, enterprises have been marked with such widely fluctuating prices and activity levels. Ever-changing fashion trends have been primarily

responsible for establishing pelt values. But the fur industry has persisted through periods of fluctuating prices, wavering demands and changing preferences for long- and short-haired furs.

Pelt prices for wild furs rose to a new high in 1920 when mink pelts brought about $50 each. The fur market fell in early 1920 but, by 1925, prices and demand were recovering along with the general economy. By 1929, before the Great Depression, fur was very valuable. Fox pelts brought about $200, coyotes were worth $60-$70 and beaver were selling for approximately $100. These and many other values crashed in 1929.

Recovery from the devastating Depression affected the fur trade much the same as other businesses. Price and demand were low. Fur values began to climb through the 1940s and beaver, muskrat and mink were bringing prices that created interest in their harvest.

From the 1950s to the present, the market has remained remarkably stable, except for recent, dramatic increases in values of the long-haired furs. Accelerating values of bobcat, Canada lynx, coyote, fox, wolverine and badger furs are especially noteworthy and largely

precipitated by European fashion demands. Prices received for short-haired species have not changed significantly.

Trapping license sales have risen along with the increasing values of furs. More hunters are also seeking the valuable bobcat and coyote.

Havesting pelts provides a unique outdoor opportunity with the potential of an economic gain. Today, coyote hunting is a recreational activity that pays its own way and many Montanans engage in it. Trapping is attracting more participants and offers both an opportunity to be outdoors and also to realize some level of monetary return.

These increased demands for wildlife have resulted in the need for more refined biological information and management programs. The bobcat, Canada lynx and river otter are included in an international treaty that regulates export and trade of animals when such activities could be detrimental to favorable population levels.

The bobcat was an unclassified predator in Montana until designated a furbearer by the 1977 legislature. This gave the Montana Department of Fish, Wildlife and Parks (DFWP) authority to set seasons and bag limits and to manage the species. A limit of two cats each season per licensed hunter or trapper was imposed. Research projects are under way to investigate the biological and ecological roles of this reclusive animal. Bobcat populations are subject to normal variations caused by many factors, but numbers are somewhat below levels of the past. However, the species is considered unthreatened statewide.

The Canada lynx and wolverine were reclassified as furbearers during the 1979 Montana Legislature. Two lynx may be taken, or one lynx combined with one bobcat to fill the aggregate bag limit for cats. One wolverine may be taken by a licensed trapper per season. Wolverines typically inhabit backcountry or wilderness areas. Populations are considered stable or expanding—at levels above the low numbers of 50 years ago. A four-year cooperative research project on the South Fork of the Flathead River, conducted by Dr Maurice Hornocker, answered many questions about the wolverine and will help ensure the species' future.

Because of its playfulness, the river otter is invariably enjoyed by those fortunate enough to observe one. Classified a furbearer for many years, harvest is limited to one animal per licensed trapper each season. The DFWP is planning population status and distribution research to help better manage this animal and to preserve it as a native Montana species.

The beaver, noted for its industriousness and ability to build dams and to create ponds under adverse conditions, has historically been one of the most important fur-producing species. Beaver are abundant—sometimes even nuisances—in some areas east of the Continental Divide. West of the divide, the beaver is present in most areas with suitable habitat. Although the value of beaver pelts has been relatively low for many years, they contribute significantly to the total fur harvest.

Mink, muskrat, weasel, fox, skunk, raccoon, badger and marten also constitute a notable segment of the fur industry.

The history and up-and-down nature of the fur trade precludes any predictions about the future. It is the oldest industry in Montana and one that has survived where many others have failed. The total value of the Montana trade last year was around $4 million when the unrecorded coyote harvest is considered.

The department's goal is to manage these species so the annual surplus from fur-bearing animal populations may be harvested equitably, while maintaining secure core populations for the future. ■

The Catchall

Forensics: A Scientific Aid to Law Enforcement

Late one summer evening, a Department of Fish, Wildlife and Parks (DFWP) game warden received a telephone call. The caller said, "I don't wish to give my name, but I want to report a violation. Someone has been out here shooting from a blue pickup—I think they have a deer! Can you come out?"

"Certainly," replied the warden. "Where did you see the shooting occur? Did you get the truck's license number? Good! Thank you—I'm on my way."

The warden's investigation led him to an empty pickup parked in front of the suspect's house and then to the site where a deer had been killed. Blood and hair samples taken from the kill site and from the pickup were sent to the DFWP Research Laboratory in Bozeman. Tests determined they were from a deer. The suspect was then confronted with the evidence and admitted taking the deer illegally.

Situations such as the one described above are common—a drop of blood or a hair provides the physical evidence necessary to link a suspect to a violation. In this instance, the telephone call is considered hearsay evidence, inadmissible in court and insufficient to obtain a search warrant. Without physical evidence, the violator could not have been prosecuted.

What techniques do research scientists use for blood species identification? As usual, cost is a primary consideration. At the expensive end of the scale, there are techniques such as Radio Immuno Assay, which require a large investment in equipment. This technique has the advantage of being able to determine species even from a dust-sized particle of blood. Less expensive techniques are those such as immuno diffusion which can be done with considerably less expensive equipment but require at least a drop of blood for determination. We've found this system adequate in over 90% of the cases in Montana.

Let's examine exactly what it is about blood that allows us to differentiate between a deer and a coyote, for example. Most tests are based on the fact that blood from different species of animals contains proteins with different physical properties. But a protein molecule is so small that it has never been seen with anything except the most powerful electron microscopes. Regardless of how small the molecule is, it has a size, shape and an electrical charge.

The first two characteristics are self-explanatory; the third requires a little explanation. A protein molecule is made up of amino acids which contain atoms of carbon, hydrogen, oxygen and nitrogen. The hydrogen atoms are positively charged, and the strength of the charge depends on the number of hydrogen atoms in the molecule. Many of the techniques use this charge difference to differentiate between proteins.

When an electrical current is run through a substance containing the blood sample, the positively charged protein molecules are forced toward the negative pole and vice versa. By varying the current and the material supporting the sample, it is possible to separate the proteins into a number of invisible bands. These bands can be made visible by using protein stains. Blood from each animal species has its own characteristic protein profile, and can thus be accurately identified.

The immuno diffusion technique is based more on differences in protein size and shape. Two terms must be explained to understand how this technique works: "antigen" and "antibody." Antigens are molecules foreign to an animal's body, such as molecular components of viruses, bacteria and proteins, or other large molecules that make up another animal's body. Antibodies are large protein molecules produced by an animal in response to contact with an antigen.

For example, if we are exposed to an influenza virus (antigen), our immune system is triggered to form antibodies that aid in fighting the virus. The second time we are exposed to this virus, our immune system's computer is already programmed for it and the virus is stopped before multiplying. Antibody combines with antigen in what is commonly described as a "lock and key" arrangement. The influenza virus is the lock (antigen) to which our body is exposed. The immune system then builds a key (antibody) to fit that lock. The system is very specific; if the virus mutates to a new strain, the old key will not fit and a new one must be made.

What does all this have to do with identifying a drop of blood? The immuno diffusion technique utilizes the immune system by exposing a domestic goat to deer blood (antigen) by direct injection; through a series of these injections, the goat's immune system becomes programmed and produces antibodies specific for the deer antigen. Blood containing the antibodies is drawn from the goat, giving the key for the test. Because these antibodies will be specific for the protein found in deer blood, the key will only fit the deer blood lock and no

A new year without the 1980 *Montana Outdoors* Wildlife Calendar is like a Christmas tree without the star on top. Order yours now to assure delivery by December 25th (see back cover for details).

recycled paper

other. Now that we have the key, we need some way to determine if the unknown drop of blood from the blue pickup is the correct lock. In other words, if it's deer blood, the key will fit; if it's coyote or some other blood, the key will not fit.

We check to see if the key fits by pouring liquid agar (a culture medium) into a plate. After the agar hardens to the consistency of gelatin, a series of wells or holes is punched and each well is filled with about half a drop of a different antigen or antibody. The antibody (key) is poured into the center well. The outside wells are filled with deer blood (the known lock), the unknown blood, elk, domestic beef, antelope and coyote blood. The plate is allowed to sit overnight while these antigens and antibodies diffuse through the agar.

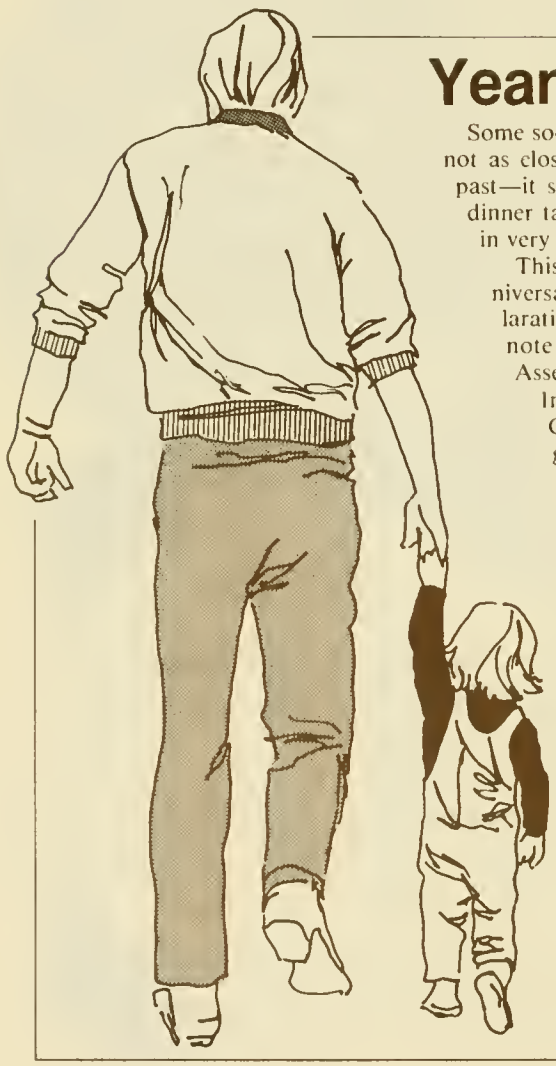
If there is a lock and key match between components in any two adjacent wells, the diffusion stops and the result is a visible line in the agar due to the combining of the antigen and antibody molecules. If it is not a match, they diffuse past each other with no visible line. For example, if there is a line between the center well and the known deer blood, and also a line between the center well and the unknown well, the unknown blood is deer. Pictures illustrating this have been accepted as conclusive evidence in court.

Hair identification is simpler. Hairs are keyed out much the same as plants, starting with color, then diameter and other physical characteristics. Characteristics that vary among species include color, length, width, undulations or waves per inch, scale patterns, medulla, overall hair shape and base shape. Patterns are formed by scales on the outside of the hair, similar to fish scales. The medulla is the center, or core, of the hair. A combination of these characteristics generally pinpoints a hair to the species of animal from which it came.

Forensic investigations include more than hair and blood identification. For example, it is possible to determine whether an animal was killed with an arrow or rifle by techniques that detect traces of lead. Time of death can be determined within limits by such things as body temperature, eye pupil dilation and potassium level in the eye. Parts of animals can be matched by fracture matches or chemistry. The direction, path and caliber of bullets and exact cause of death can also be determined.

In these times of higher wildlife values and more sophisticated equipment available to violators, law enforcement personnel must keep pace. Forensics plays a small part in the overall picture, but can sometimes help establish that vital link needed to convict the violator. Like other good law enforcement procedures, forensic science exists to deter the potential violator as well as convict him.

Vocal and well-financed anti-hunting groups are attempting to take sport hunting away from us. Game law violators are providing these groups with examples of "sportsmanship" they need in their propaganda. It's up to us as hunters to help eliminate this element from our ranks. Any suspicious activity should be reported at once to your local game warden or the toll-free report line (1-800-332-6117). Let's keep sport hunting around for future generations.—*Dan Palmisciano*



Year of the Child

Some sociologists believe the family unit is not as closely tied together as it was in the past—it seems that getting together at the dinner table or around the fire doesn't fit in very well with our hectic schedules.

This year marks the twentieth anniversary of the United Nations' declaration of the rights of children. To note this anniversary, the General Assembly has declared 1979 as the International Year of the Child. Gov. Thomas L. Judge and other governors throughout the United States have joined in the proclamation in the hope that the special needs of children will come into focus.

One of the most popular ways to relate to and enjoy children is to spend time with them in the outdoors—camping, fishing, hunting, hiking or simply enjoying the crispness of 1979's waning days. Consider taking along a neighbor's child who doesn't get the opportunity to be in the outdoors very often. Seeing old things through new, young eyes can be an experience of renewal for you, too.—*Vince Yannone, Department of Fish, Wildlife and Parks representative, Governor's Committee for Year of the Child*

Acres for Wildlife

Obtaining a supply of firewood for the winter—free—and helping wildlife conservation at the same time is an appealing idea. And the Billings and Red Lodge Rod & Gun clubs have proved such an idea can work.

The U.S. Forest Service (FS) is sponsoring a program of clearcutting 10-acre blocks of aspen and lodgepole pine in a 500-acre section along the north slope of the Beartooth Mountains near Absarokee, Mont. Because trees in the stand are mature and grow closely together, they block out the sun and result in a serious decline in the amount of brushy undergrowth and browse necessary for wildlife.

Members of the sportsman's clubs have spent weekends cutting the timber in their 10-acre plots. Then the slash is burned to facilitate creation of grazing areas for wildlife. Phil Jaquith, FS ranger and game biologist, and Shawn Stewart, Department of Fish, Wildlife and Parks biologist, are assisting in coordinating the program. Jaquith estimates the project will take 10 to 15 years to complete.

But in the meantime, it provides an excellent example of sportsman's clubs and the public working together to create acres for wildlife.—*Steve Bayless, special projects coordinator*

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A Free-Flowing Yellowstone: No Longer Just a Dream—For better or for worse, the die—to a large extent—has been cast for the future of the Yellowstone River. March/April 1979

Floating Classroom on the Magic Missouri—A unique classroom for Northern Montana College's challenging six-day course. May/June 1979

What Does the Future Hold?—The answers to this question for the Madison River, one of Montana's finest wild trout rivers. July/August 1979

The Timelessness of Thunder Dancing—What does the future hold for Kootenai Falls? Sept./Oct. 1979

Book Reviews

THE DEER OF NORTH AMERICA, by Leonard Lee Rue III, An Outdoor Life Book, Crown Publishers, Inc., 1978, 463 pages, $12.95 hardbound.

What is life like for a deer in winter? How well can deer hear? What are common foods for deer? How can you tell the age of a deer? The answers to these and many other questions are explored in one of Leonard Lee Rue's newest books. There are few books today dealing with specific wildlife families or species more detailed than "The Deer of North America." Rue has spent years photographing and studying wildlife—he has made these pursuits his life.

With over 200 black and white photographs, he has covered nearly every facet of a deer's existence: communication, history, physical make-up, management, health, disease, distribution and habitat requirements. As noted on the cover, the book is "an illustrated guide to their lives, their world, their relations with man."

The book is not a sit-down-and-read-in-an-afternoon volume, but should certainly be on the shelf of anyone concerned with wildlife. It is an educational tool, a text, a reference, a guide; it is information never put together under one cover before.—*Craig Sharpe, motion picture production unit supervisor*

FISH AND HUNT THE BACK-COUNTRY, by Richard Eggert, Stackpole Books, 1978, 223 pages, $9.95 hardbound.

Author Richard Eggert lives in western Montana. In addition to the northern Rockies, he has backpacked, canoed, rafted, skied and snowshoed in many wild places throughout the nation.

In a very readable fashion, the book emphasizes that to fully enjoy fishing and hunting in such places, one will have to face the reality of backcountry demands. Everything needed to enjoy such an outing will have to be carried on the back. Eggert draws on years of experience in discussing and evaluating various items of outdoor gear, including clothing, food, backpacks, sleeping bags, tents and much more. He suggests traveling as lightly as is feasible, and also stresses physical conditioning.

The author's deep concern for protection of the fragile wilderness environment appears frequently throughout the book. He includes a number of practical hints on camp location, cooking methods and sanitation.

He writes about the fun of backcountry fishing and discusses tackle, as well as the various fishes found in wilderness areas. He urges care, so that remote, fragile mountain streams and lakes are not overfished.

The backpacking hunter pits physical stamina and skills against superbly capable quarry. Various methods of taking advantage of cover and terrain are described. In attempting to approach big game animals, the game-stalking bivouac sounds especially challenging. Pack rifles, various types of bows and arrows and other equipment are described.

The author prefers hunting deer and sometimes elk. He believes the less abundant species should be lightly hunted. He suggests the grizzly should not be hunted at this time, south of the Canadian border. (It should be mentioned that most game managers believe carefully regulated hunting is not harmful and, in fact, is beneficial to maintenance of grizzly populations. The author's inference that the heads of mountain goats or sheep are the only parts brought out is incorrect; to leave the meat is illegal.)

He has included an interesting section on upland game bird hunting.

The final chapter discusses backcountry hobbies. Eggert notes that nature photography is an especially rewarding activity, and includes helpful information on types of cameras, film and lenses well-suited to backpacking. This chapter also delves into plant identification, emphasizing edible species, including mushrooms.

The book ends with the thought that plants, animals and scenic beauty play an important part in our appreciation of wild country. If we go to all of the effort to backpack into these areas for only the purpose of hunting or fishing, we are missing much of the joy of being there. —*Bob Cooney, (retired), Wildlife Division*

THE SUPERMARKET HANDBOOK: ACCESS TO WHOLE FOODS, by Nikki and David Goldbeck, Harper & Row, 1973, 413 pages, $7.95 hardbound, $2.95 paper.

For those of us concerned about the abundance of chemical preservatives, additives, colorants, artificial flavorings and overprocessing of food today and who want to get back to basic food-buying habits, "The Supermarket Handbook" is a wise guide.

It's an easy-to-read volume, containing such helpful chapters as: "Butter vs. Margarine: The Higher Priced Spread Wins Again"—which fats are considered worth human consumption and how to choose the "best" butter; "Foodless Foods"—for those who love to snack, how to snack wisely; "Ecology at Home: Basic Training"—what the authors consider the most common household ecological disasters and how to keep them to a minimum; "A Short Primer on Food Labels"—how to read a label that might have previously seemed too confusing to understand, and the real meaning behind such words as "enriched," "juicy," "creamy" and "chocolaty."

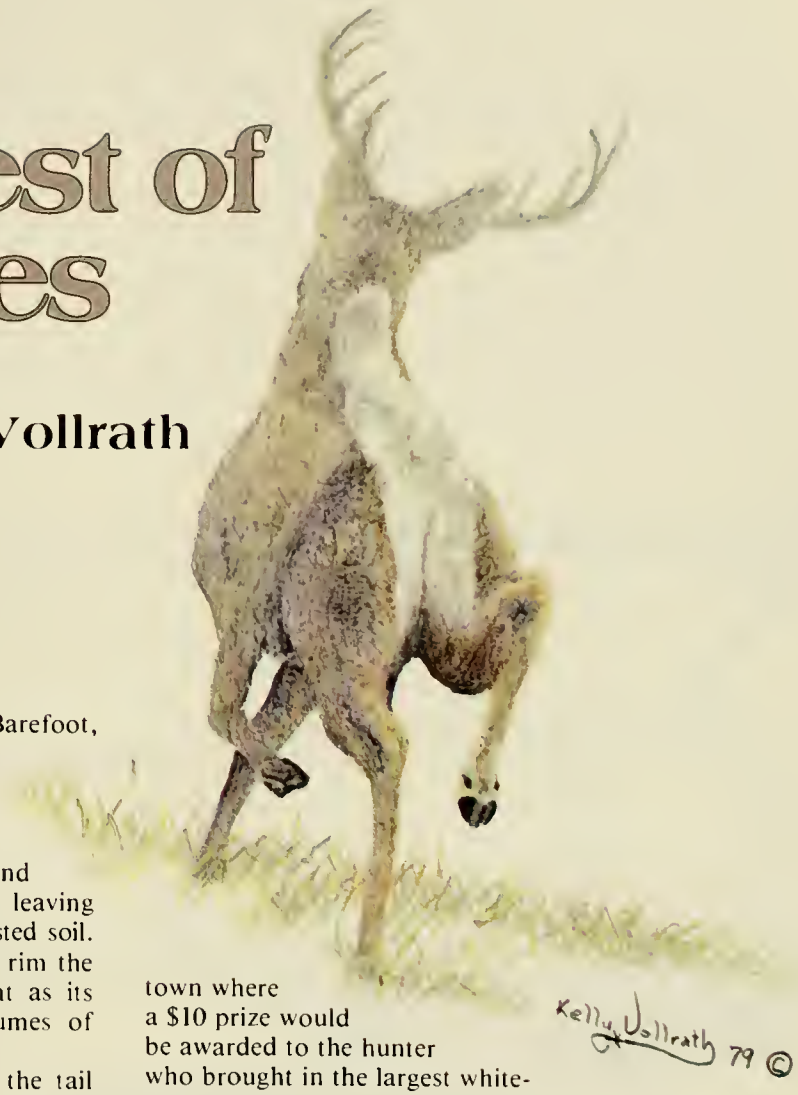
"A Shopping Tour" section at the end of each chapter lists products recommended for purchase.

"The Supermarket Handbook" doesn't expect you to eliminate problems without giving you solutions. "In Your Kitchen" provides sound, delicious recipes for soup, homemade candies and even tells you how to make your own baby foods. The section toward the end emphasizes what the consumer can do to arrive home with the very best the market has to offer, how to change some of the products your grocer offers and how to get the most for your money. You can begin creating the best environment for you and your family by being knowledgeable about your rights as a consumer and what are the freshest, most basic foods.

The authors, Nikki and David Goldbeck, consider that "The Supermarket Handbook" could probably be one of the most important staples on your shelf. —*Maureen Sharpe, Sweetgrass Bakery; Helena, Mont.*

The Richest of Hard Times

by Ken Walcheck
illustrations by Kelly Vollrath



A MORNING IN EARLY November, 1936. Barefoot, but clad in longjohns, I stepped onto our backporch and watched a Montana dust devil whisk up straw and leaves as it marked its course through our farm yard and across the prairie. There was a raw sting to the wind as it whined and raced through our corn fields, leaving some of the stalks pointed wearily toward the crusted soil.

In the hazy eastern sky, a bleak sun started to rim the distant buttes—a dim circle that gave little light as its rays had difficulty in penetrating the grey plumes of wind-blown dust that darkened the sky.

The tortured sky matched the gloominess of the tail end of the Depression years. These were hard times, and dollars were just as hard to come by as trout were to catch in the lower reaches of the Yellowstone River. In that time and place, wild game was well-respected and looked upon as a sort of divine and cherished gift. Hunting and fishing were a happy blend of sport and economics.

On numerous occasions, wild game was featured at our table, and I guess this is why Mom confided to Dad that she wanted an old-fashioned turkey for Thanksgiving.

"That's a hard order to fill," said Dad, as he bit down on the stem of his well-seasoned pipe. "We don't have any wild turkeys in Montana, and we sure don't have any spare money to buy one."

About this time, we received a letter from a wealthy aunt back East, saying she was going to spend Thanksgiving with us. Aunt Penny's letter hit like a warm chinook wind in mid-January. The big question focused on a proper Thanksgiving meal for a well-to-do, cultured lady like Aunt Penny.

"How about entering the contest?" asked Mom, noting Dad's distress.

"What contest?" Dad asked.

Mom then told him about the poster she had seen in town where a $10 prize would be awarded to the hunter who brought in the largest white-tailed buck. Ten dollars would buy the biggest turkey we could find, with plenty of money left over for the trimmings.

It just so happened that our farm in the Yellowstone bottomland produced some pretty nice whitetails and there was an excellent chance Dad could come up with the prize-winning buck. On rare occasions, we had encountered one particular buck—a huge, dun-colored animal with a tremendous hat rack and a muscular neck that appeared as thick as a Hereford bull's. Seeing him always left me with a pounding heart and trembling legs. Dad guessed he would go 200 pounds or better.

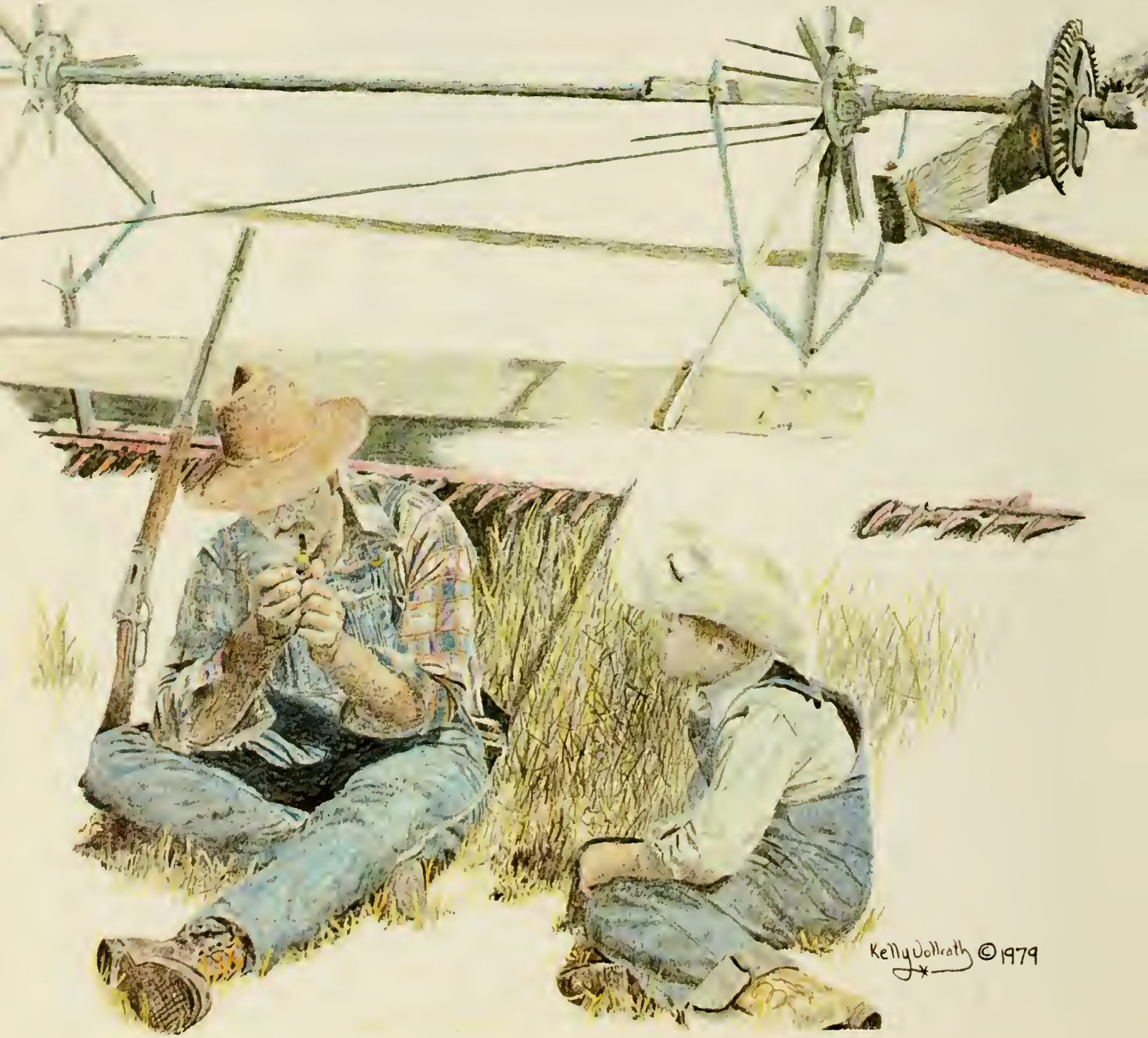
The decision was made in the kitchen that evening to try for the big buck. If Dad didn't bag the whitetail, Aunt Penny would have to settle for a Thanksgiving dinner of wild game.

On the eve of the opening of deer season, I tossed and turned as an old Austrian clock chimed away the endless hours. Frosted stars hung outside my window as if somebody had painted them on a blackened canvas, and a coyote's incessant yapping added a further note to my restlessness. I was wide awake when dawn broke. Jumping out of bed and standing on the cold floor with upturned toes, I looked out of the window and watched

the wan light float in broad bands through the cottonwoods.

There was an air of magic that morning. A chance to tag along with Dad, a rustling of dishes in the kitchen, the smoky smell of bacon and the perk of coffee singing on the back of the wood stove. The world of a boy who lives in good hunting country has no limits, especially if the boy is blessed with imagination and there is an older, romantic person—such as Dad—to encourage what some grown-ups would dismiss as tomfool daydreaming.

We were out of the house in time to feel the faint warmth of the rising sun on our faces. Walking behind the barn, we followed a fence between a pasture and a field on which we had raised field corn. As we approached a fingerlike projection of cottonwoods and willows jutting out from a backwater area, three does stepped out of the brush and walked straight toward us. I rubbed my nose while we watched, and Dad threw me a look that said, "Forget you have a nose until we finish hunting." As we hunkered behind a fence post, a good-sized buck stepped into sight, following the does. He stood in the open for a long, agonizing minute, turning his head and looking in all directions. Then he made up his mind. Turning noiselessly, he melted into the brush like a wisp of fog drifting with the wind. Although that observation occurred more than 40 years ago, it's one that defined wildness in a way that has never dimmed. It was as if I became older and Dad grew younger, and we were bound together by a revelation that knew neither age nor time.



Although Dad easily could have shot the buck with his work-worn .30-30, he wasn't the one we were looking for. We saw plenty of deer that opening day, but we never saw the buck we wanted.

On our next hunt, we worked a weedy, willowy slough that meandered across the south side of our farm. I was to walk through the dense growth and drive the deer toward Dad who was hiding behind a large cottonwood stump at the slough's head. This had been a favorite hiding place for whitetail bucks during past seasons and Dad thought the big buck might be there. As I pushed through the jungle of face-slapping willows, I heard deer getting up from their beds. I couldn't see them, but I still held my breath, waiting for the sound of Dad's gun. But no gun fired.

"He wasn't there," Dad said with a ring of disappointment in his voice. "Let's try those chokecherry patches at the head of the big coulee and see if he's there."

As we worked our way over to the coulee, Dad decided it was time to fire up his pipe and take a short break. We sat down next to an old swather to get out of the wind and I watched him fill the corncob with pungent tobacco. When we were together at times like these, he shared the treasure of his knowledge of the world with me.

"Most people," he said, "go through life worrying about getting rich. These are hard times, no doubt about it, but you and me, we're both rich. Rich," he explained, "is not complaining about what you can't have. Rich is having the time to do what you want to do, like hunting grouse or setlining for catfish. Rich is some food to eat and a roof over your head and a chance to sit like we are and look out at an open horizon. Rich is not owing any money, and not spending what you haven't got, and not worrying about how much money you can stash away in the bank. Rich is sitting right here and thinking about how to hunt that big whitetail. Time to go," said Dad, tapping his pipe against his heel to shake the tobacco remnants loose.

The buck came to his feet in one fluent, forceful movement and raced off with the speed of a runaway locomotive, but yet with that buoyant grace so characteristic of whitetails. The buck we had been trying so hard to find had been lying about 100 feet from us in a patch of snowberry, beside a pile of fence posts. Flag up, he ran through a shallow coulee and faded into a dense willow patch. It was a fair number of years before I could appreciate the fact that whitetails are particularly adept at melting into cover that couldn't possibly hide a grouse, much less a deer.

When time permitted, I went with Dad on several forays that fall, but we never did find that old fox with the antlers. Dad even began thinking someone might have shot him, although we never saw anyone else hunting on the river bottom. It wasn't a problem of not seeing deer. Dad looked at a lot of bucks, but the one he had searched so hard for seemed to have been swallowed up by the earth.

The deer season was rapidly winding down, and Mom was starting to express concern about Aunt Penny and Thanksgiving dinner. Several healthy bucks had been entered in the contest and their weights posted on the barbershop window; it would take a good-sized deer to win.

One of the tricks of hunting for whitetails is searching for those little places where the animal can go and feel secure. But Dad had exhausted all of his possibilities.

The last day of the deer season finally rolled around and Dad announced to the family that he was going to shoot one—regardless. We needed the meat as part of our larder.

It wasn't snowing, but the biting wind hinted of winter crouching just behind the hill. Against the wind, we walked the same pattern we had hunted all season—through the willows on the river bottom, up the slough and then down it again, through the silver sage bottoms and the buffaloberry and chokecherry patches and back and forth through the cottonwoods.

We worked our way back to the house until we came to a shallow coulee choked with silver sage and greasewood. It looked like a sterile piece of country that no respectable deer would use. As we stood above the coulee, Dad—pretty well frustrated by now—picked up a rock and heaved it into the thickest part of the sage and hollered, "GET OUTA THERE."

I really wasn't prepared for what happened next. A buck exploded from the sage, white banner astern, and raced up the hill. Dad shot before the deer reached the top of the coulee. The animal started to fall, caught himself and then toppled over.

As we walked through the bottom of the coulee to the downed deer, the object of our season-long search broke cover a few yards from where the first buck had bedded down. We both watched open-mouthed as he tore down the coulee and disappeared over a small rise. It seemed inconceivable he could have hidden until we were just a few feet from him. But he had.

"There goes our Thanksgiving turkey," said Dad ruefully.

We didn't have turkey that Thanksgiving, but the dinner for Aunt Penny was a great success. With Aunt Penny's help, Mom fixed a wild game menu that would have done justice to any chef. Main entrées included cinnamon-honey grilled grouse, breaded antelope cutlets, loin of venison and brown gravy stirred in the roasting pan with floating bits of the crusty venison. Side dishes included mashed potatoes whipped with thick, fresh cream, corn, squash, homemade bread, churned butter, apple jelly and wild honey, followed by apple pie topped with sharp Cheddar cheese and freshly ground perked coffee. A crackling fire in our large stone fireplace added that final touch of festive warmth.

As I glanced over at Aunt Penny, I saw in her eyes a special kind of beauty, a cheerful serenity filled with understanding. Our eyes met and a warmth surged through me that had nothing to do with the heat from the fireplace.

As the years passed, I learned the best kind of feeling is feeling good when surrounded by riches you can't count. That kind lasts longest. I guess that's what made that Thanksgiving 40 years ago so special. It was a good lesson on what being rich is all about, and one I will carry with me for the rest of my days. ■

The Rewards of Observation

Alan G. Nelson is one of those rare individuals who combines the eye of an artist with the training of a scientist. A biology instructor at Charles M. Russell High School in Great Falls, he has spent 14 summers as a ranger/naturalist in Glacier National Park. Partly as an outgrowth of his park experiences, he published a book on its wildflowers. His awards and photographic honors are many, among them membership in the Photographic Society of America and the Diamond Star Rating for exhibition of nature slides. As the photographs on the following pages emphasize, he follows his own advice: "Take a little time to make observations and you will be justly rewarded." Observing his artistry has provided many lasting rewards for *Montana Outdoors* readers.

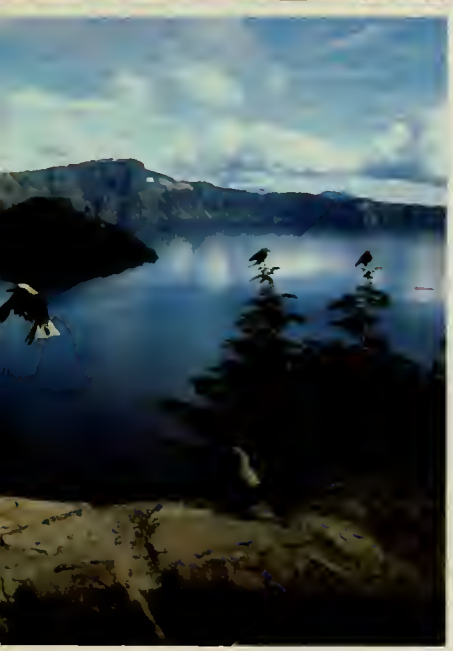


photo of Alan G. Nelson: Kenneth W. Fink

"Surely, we are wise enough to recognize that man needs more than the steel and concrete environment of urban civilization to fulfill his natural role here on earth. He must also have the sanctuary of unspoiled land, a place of solitude where he may turn his thoughts inward. He must have the opportunity to wonder at the miracles of creation."

—former U.S. Senator Alan Bible, Nevada

"Prairies, mountains, hills, lakes, ponds, national parks and national wildlife refuges are areas I encourage all people to seek out and appreciate. The sheer enjoyment and educational value of these areas, so productive in wildlife, are outstanding. Take a little time to make observations and you will be justly rewarded—as I feel I have been. I present this picture essay to show you the opportunities that exist."

—Alan G. Nelson

GULLS IN MONTANA? I don't believe it. But in fact, seven gull species are found in the state. Two of the most popular are the California and ring-billed.

Gulls are usually seen near water but at times may be found a considerable distance from it. They eat any form of animal matter. On Montana's prairies, they frequently search for insects in newly turned ground. In the water, they feed from the surface on fish, crustaceans and insects. The amount of fish they consume is relatively unimportant and they are not patient fishers, but prefer gulping small fish in quantities. They occasionally take a young bird or mammal.

Gulls annually consume vast quantities of garbage along our waterways—they may be considered beneficial scavengers. At times, they have helped control overpopulations of small mammals and grasshopper plagues. In Utah, a monument was built to honor gulls that appeared at an opportune time and destroyed crickets that were ravaging Mormon fields and destroying the crops.

Gulls are colony nesters—many birds use the same nesting area. They usually nest on the ground, but sometimes use small, bushy trees. The female lays from two to five eggs which are spotted and blotched with varying shades of brown. Incubation takes about one month. Before the young are even one day old, they feed on the semidigested food the parent places before them. Within a short time, the young leave the nest and wander around with other young, hiding among the stones or under vegetation near their nests.

It is difficult to believe that the adults recognize their young. But when adults bring food, they are solicited by many young but disregard all advances until they find their own. However, after observing several colonies, I believe the young are not able to distinguish their parents.

The young are flying within five or six weeks. After this, they are on their own and must forage for themselves. At this time, they weigh about the same as their parents, but they have differently colored plumage. They do not acquire adult plumage for more than two years. For example, when first hatched, California gulls are covered with thick, soft down of plain, light

Two fighting herring gulls, photograph by Api E. Derksen of Basel, Switzerland. Derksen's photograph, winner of the first prize from the German Animals Society and the medal for excellent performance in animal photography, was taken during a trip to Montana.

Masters Of The Air

Their long, wide wings enable them to poise, resting motionlessly, seemingly suspended in the air.

by Vince Yannone

colors which blends with their surroundings. These colors fade to a greyish-white as the birds grow older. It takes about four molts (losses of feathers) to reach adult plumage.

Gulls are masters of the air. There is never an instant when their wings and tails are not constantly adjusting to meet the different air currents. They often poise, resting motionlessly

on outstretched wings. Their long, wide wings enable them to accomplish these acrobatic feats.

Gulls live in Montana during spring, summer and early fall. When cold weather approaches, they migrate south and west to winter on the Pacific Coast and large inland lakes of the southwestern states and Mexico. Occasionally, gulls winter in Montana; if the season is mild, food is usually available below some of the large dams on the Missouri River.

In identifying adult gulls, the most important characteristics are their feet, bills and wing tips. The feet vary in color—from yellowish or greenish to pinkish, red or black. Bill colors range from yellowish and greenish to red or black; in many gulls, the bills also have distinctive marks. The wing tips may be solid black, black with white spots (or mirrors), grey or white. All Montana gulls may be identified by using these combined characteristics.■

HOW TO IDENTIFY MONTANA'S FIVE MOST POPULAR GULLS

Bill color

Yellowish

Yellow with spots

With red spots on lower jaw
Yellow eyes
Flesh-colored feet

HERRING

With red or red and black spots
Dark eyes
Greenish feet

CALIFORNIA

Yellow without spots

Black ring around bill
Dark eyes
Yellow feet

RING-BILLED

Bill without yellow

Bill black
Dark eyes
Red feet

BONAPARTE'S

Bill dark red
Dark eyes
Red-brown feet

FRANKLIN'S

(Glaucous and Sabine's gulls are seldom found in Montana.)

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Readers Respond

The Other Side of the Story

I enjoy the humorous stories in your magazine. One in particular caught my eye—"What is a Bird Hunter?" by Ken Walcheck (*Montana Outdoors*, Sept./Oct. 1978). I don't know if Ken is married or not, but I notice he did not mention a very important person who has to live with and put up with this unpredictable creature known as a "bird hunter." That person is his *wife*. After living with such a creature for 15 years, I found it quite easy to sit down and write another viewpoint of hunting and what it entails:

The Other Side of the Story

Just some advice to the young gal who
catches a bird hunter's eye,
Advice you'll probably remember, as the
years go passing by.
What happened to that tired man—who
for nine months slept in late?
While you tiptoed quietly around, making
breakfast he'd probably hate.
October comes, the "season" starts; the
ducks are flying low.
At 5 a.m. he jumps from bed, hollering,
"Help me get ready to go!"
He runs around, but cannot find, his
"special" hunting clothes.
This one time he need not use his head,
just follow his great big nose.
*A note of advice is needed here, for the
bird hunter's new bride.
If you remember this and never forget,
from your hubby you never need hide:
Never throw out that dirty old hunting
cap, though it's definitely seen
better days.
Never, never wash his hunting pants,
to see if the bloodstain fades.
For behind each sweat mark
and bloodstain, there is a story,
to be sure,
And these are the stories you shall hear,
the remainder of the year.
Because it's cold and wet outside, a
nice big breakfast you make,
Only to have him say to you—"Haven't
got time, a sandwich I'll take."
Yes, that's the same man you married,
who likes his table set "nice."
That's the same one who now shoves
a sandwich in his pocket full of
bird lice.
He finally leaves in a hurry. And you
now fully awake
Sit down, relax, calm your nerves and
have your first coffee break.
Oops! He's back—for the dog he nearly
forgot, the dog *you* took care of
all year.
That dog has become his best friend
and now has become so dear.
*Another note of important advice, for
the hunter's blushing new bride.
It is something you may not expect, so
to you this I must confide:
Be careful what your hubby wants. After
a month of marital bliss
That the pitter-patter of little feet may
very well be this—
A puppy for you as a companion,
a puppy that will learn to protect.
Though you really aren't quite ready,
his loving suggestion you soon accept.
The puppy is *yours* and *you* have
one in mind,
But for all the kennels in this world,
that one he cannot find.
He'll take you to a "certain" place,
and show you a cute little fellow.
Now we all know that puppies are cute
when small, whether colored black
or yellow.
All puppies are the same when young,
I really must confess.
So *you* take the time to train him well
and teach him not to mess.
But what a new wife may not expect,
she very soon will know.
The one your husband picked for you
will grow and grow and grow!
Back to that day you spent cleaning,
as you waited for their return.
You got tired, crabby and hungry and
your supper began to burn.
With a big smile on his face, "I bagged
my limit," he said as he walked
through the door.
He put the ducks down, brought in the
wet dog; they are all now on
your clean floor.
"I had a very rough day, but notice dear,
I brought home the meat for
our table.
"Cleaning the ducks and stuffing the
birds, of that I'm sure *you* are able."
Feathers fly—not just from the birds—
after you finally crawl into bed
When he holds you tight, whispering
tenderly—
"Set the alarm for 4 o'clock instead."

—*Claudia Timm; Carrington, N.D.*

Journal of Natural Heritage

I just finished reading your July/August 1979 issue and want to tell you it is one of the best, especially the "Editor's Column" about the veteran elk hunter, jaded by years of success, who graduated to bow and arrow and got "buck fever" so bad that he missed a bull at 30 yards. The editor then told of his experiences with "pheasant fever."

My experiences also include "pheasant fever." When I graduated from my pet Browning automatic to a Remington .410 pump, I missed 14 birds before getting my first one.

Your articles are great; I especially enjoyed "Masked Bandit of the Night." "Outdated Mining Law Threatens Wildlife" was very timely and should incite significant changes in the law. The shorebird photos and captions are beautifully done and should enhance the fine reputation of this literary and instructive journal of our natural heritage.—*Elmer C. Bricca, M.D. (retired); San Francisco, Calif.*

"Christmas Morning" Anticipation

I can't begin to tell you how pleased I am with the new system for special permit game drawings slated to go into effect next year. Under the new system, 10% of the permits will be drawn from the group of applications with no preference.

Even if I enjoyed #1 preference in all categories, I would still applaud this new system. It is tedious enough to wait seven years before reapplying for a species, but to sweat one's way to the top of the preferred list in addition—with no hope at all—is for the birds. If one is middle-aged, it reduces a person's chance of being drawn again to near zero.

Granted, the chance of drawing a permit out of the 10% is minuscule. Still, it preserves that "Christmas morning" sense of anticipation one enjoys at that time of the year, when trips to the mailbox are made with one's heart full of hope.

Ideally, I think the whole preference system could be abolished, with all eligible applications in a common pot. It would certainly be a lot less work for the department. After all, special permit hunting—as any other kind—is supposed to be fun and a chance. What is more fun than the knowledge you have at least a chance to fulfill your heart's desire?—*Jaculyn K. Cory; Hamilton, Mont.*

recycled paper

Unsightly scars left by thoughtless joyriders are resulting in closure of more and more private land to public recreation (DFWP photo: Paul Pacini).

HOW WILL THEY REMEMBER US?

by Paul Pacini

WHEN THE WAR of Independence was won, the 13 original states constituted a public domain of 200 million acres. The public domain continued to increase with the Louisiana Purchase, the Spanish cession of Florida, the Oregon Compromise, the Mexican cession, the purchase from Texas of its lands to the north and west, the Gadsden Purchase and the Alaska Purchase. Today, the federal government holds title to 771 million acres of the United States' gross area of 2.3 billion acres.

In this country, the right to own property has been indivisible from personal freedom. Land meant economic freedom for both those persons already residing in the new nation and also for immigrants who had no hope of acquiring land in their native countries. For a century, the major objective of land policy was to transfer public domain to private ownership. To meet this objective, Congress enacted public land disposition laws relating to land grants, cash policy, settlement policy, grants to veterans and more.[1]

This resulted in the nation's population moving from the Eastern Seaboard to the West. Settlers came in droves, on foot, horseback and in fleets of prairie schooners, carving out trails and later freight and stage routes the names of which are still with us—the Bozeman Trail, Montana-Utah Trail, Mullan Road and Fort Shaw-Fort McLeod Trail, to name a few.

In many places, fading tracks can still be seen more than a century after the ironclad, wood-spoked wheels rolled across the virgin prairie. From 1864-68, the Bozeman Trail led immigrants from the Oregon Trail near Bridger's Ferry, Wyo., to Bozeman, Mont., and into the mining country. Where it crosses the Yellowstone River near Springdale, Mont., it is obvious yet today. The 425-mile Mullan Road was actually a military road surveyed in 1853; it connected Fort Benton, Mont., to the Washington Territory and served immigrants as well as miners during the Montana Gold Rush. Faint wagon tracks are still visible where they cross the present Benton Lake National Wildlife Refuge about 12 miles north of Great Falls. The Fort Shaw-Fort McLeod Trail (1867-1900) was originally used as a mail route between Fort Shaw on the Sun River and Fort McLeod, Alberta; it subsequently developed into a freight and stage route. As the "Montana Historic Preservation Plan" notes, "Along its jolting ruts, still visible in places, went whiskey traders, Mounties, Indian travois, stagecoaches and freight wagons drawn by 8 or 10 yoke of oxen."[1]

These roads and trails cut by American pioneers are part of our national heritage. But we are still carving trails across the relative wilderness of the West. These wagons are not drawn by "8 or 10 yoke of oxen" but by the power of 350 or 400 horses. Their wheels are not made of wood and iron, but of rubber and steel. Perhaps the real motivation—adventure—of today's wagon masters has not changed drastically.

But our ability to demand adventure, to satisfy it at almost any price, has increased beyond our ancestors' wildest dreams. Imagine, in 1860, trying to convince a pioneering spirit jolting across the Montana prairie in a covered wagon that his descendants could someday roll across the same prairie in a 4-wheel-drive vehicle, seeing as much country in an hour as he could have seen in a day? Without a road. Or that these same descendants would be able to drive straight up and over that steep hill instead of switchbacking or going around it? Our ancestors' exhilaration may have been equal to ours, but they were not capable of such feats—we are. This capability also allows us to leave even more and longer lasting scars across our landscape. Our all-terrain vehicular technology is rapidly outgrowing our environmental sense of responsibility.

In 1973, Montanans became concerned enough to pass the first off-road vehicle (ORV) law, to be administered by the Department of Fish, Wildlife and Parks (then the Department of Fish and Game). Basically, the law stated hunters must drive only on established roads, except when retrieving a downed big game animal. The Department of Fish, Wildlife and Parks (DFWP) defines an established road as one which has at least been ". . . so habitually used by vehicular, animal or pedestrian traffic that the surface of the ground has been permanently displaced or eroded and is substantially free of grass or other vegetation." The statute has one shortcoming in that it addresses only hunters, certainly not the only group prone to driving off roads.

But the law's strength is its simplicity: If you hunt in Montana, you *must* drive only on established roads, with one exception—to retrieve a downed big game animal. Of course, this would not prevent one from driving off a road on private land if permission were given in writing by the landowner.

Unfortunately, the new law attracted immediate fire from the Bureau of Land Management (BLM). The BLM believed that even though the Montana Legislature, by authority of the people of Montana, supported and passed this bill, the DFWP was exceeding its authority by enforcing the law on BLM land. The BLM contended the DFWP is a wildlife management agency, not a federal land management agency. On Sunday, Sept. 22, 1974, the Billings Gazette ran an ar-

ticle headlined "BLM Land Open to Vehicles." Then BLM Director Edwin Zaidlicz was quoted as saying, ". . . BLM lands in Montana are not closed to off-road vehicles."

Pressure from the BLM finally resulted in the Montana Legislature's revision of the law in 1975. It essentially looked the same, except for an additional sentence at the end: "The restrictions in this subsection on motor-driven vehicle use off an established road or trail apply only to hunting on state or private land, not to hunting on federal land unless the federal agency specifically requests or approves state enforcement." This one sentence effectively removed the teeth from the first ORV law because it eliminated the department's jurisdiction over federal land—which constitutes over one-third of the state of Montana.

At the national level, action on off-road vehicles took the form of an Executive Order (EO 11644) issued by then President Richard Nixon in February 1972: "It is the purpose of this order to establish policies and provide for procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various users of those lands." The two major agencies this would affect in Montana are the U.S. Forest Service (FS) and the BLM.

During 1975 and 1976, the FS in Montana collected public opinion and information on how to implement the Executive Order. Of course, public opinion ran the gamut—from avid off-roaders to staunch environmental preservationists. After months of public hearings and deliberation, a travel plan was adopted and maps distributed in 1976. The off-roaders may have felt more inhibited by these regulations, but many environmentalists believed the plan did not go far enough in protecting the environment from modern mechanization.

For example, most FS holdings were designated as "open" to off-road traffic. "Closed" areas were limited mostly to wilderness and primitive areas which were already off limits to motor-driven vehicles. The remaining significant portion of FS holdings was designated as "restricted." The "restricted" designation identified (1) areas that could be used by ORV's only during certain times of the year, (2) areas that could be used by certain types of vehicles, such as 4x4s, motorcycles or snow machines and (3) areas where use was limited to designated roads and trails only. The result was 10 different maps representing the 10 Montana forests, available to all forest users at any national forest headquarters. But the maps are complex and difficult to interpret and people cannot comply with a regulation unless they understand what is being asked of them.

The BLM's proposed rules were published in the Federal Register three times for public comment between April 1974 and July 1978. Each publication required alteration until the final version appeared in the June 15, 1979 Federal Register. (A copy is available from BLM offices.) The rules took effect July 16, 1979.

The structure of the BLM's off-road vehicle rules is essentially the same as that of the FS's travel plan. The BLM rules state: "The authorized officer shall designate all public lands as either open, limited, or closed to off-road vehicles." Here again, the off-roader may have felt a monkey was placed on his back. On closer examination, the monkey appears very small indeed. The majority of BLM land has been left "open" to off-road vehicle use, with "closed" areas limited mostly to wilderness.

To determine exactly which areas are designated "open," "closed" or "limited" on public lands, one must visit a BLM office. Here a BLM officer may describe the boundaries of a specific ORV-designated area and provide a map. It is probably safe to assume, however, that most off-road ventures are spontaneous—little forethought or planning are involved in deciding just where one will leave a road, or if he will leave the road at all. Therefore, it is unlikely that the driver knows the status of the turf over which he rolls. BLM closures are posted, but a driver will not read every sign he passes and signs have a notoriously poor survival rate because of vandalism.

The key to compliance is simplicity and understanding. A simple, understandable and seemingly equitable alternative exists to protect FS and public land from vehicular abuse while also allowing use of recreational vehicles. Wheeled vehicles could be restricted to designated and/or established roads unless otherwise posted. After all, most reasonable objectives on FS or BLM land can be reached via a road. If one wishes to test the limits of his 4x4 or motorcycle, there are established roads which will do just that.

If there is an unusually great demand for off-road travel in a specific area, then the "sacrifice" concept should perhaps be considered. A defined area (hundreds of acres) is opened to off-road travel, but the sacrifice area is not the bulk of the forest or public lands. At this writing, the FS and the DFWP are working on an agreement meshing both agencies' laws and allowing the more restrictive to be enforced.

According to the 1972 Executive Order, "An estimated 5 million off-road recreational vehicles—motorcycles, minibikes, trail bikes, snow machines, dune buggies, all-terrain vehicles and others are in use in the United States today, and their popularity continues to increase rapidly." Today, about 10 million off-road recreational vehicles are in use.

A study by Terry Lonner, a biologist in the department's Research Bureau in Bozeman, indicates the 4-wheel-drive use among Montana hunters is increasing rapidly. In 1973, 63% of the hunters in Hunting District 319 used 4-wheel-drive vehicles. Just five years later, 85% of the hunters were operating 4-wheel-drive vehicles.

Being a hunter is certainly not synonymous with being an off-road demon. But it is *people* who cause the problems—people who don't have enough environmental concern or respect for the landowner (you and I are landowners on state and federal land) to stay on roads and trails. Irresponsible picnickers, photographers and Sunday drivers are every bit as guilty as irresponsible hunters.

California deserts are being denuded of vegetation and stripped of their biological diversity by hordes of motorcycles, dune buggies and 4-wheel drives.[4] And now the Washington Department of Natural Resources wants to establish a 400-mile trail for motorcycles, dune buggies and 4-wheel drives from Montana to Washington.[5] There's no justifiable way these vehicles can be banned from designated roads on public land. But neither can there be any conscionable excuse for legalizing a sinuous trail up to and along every ridge top in the western mountains, or the slicing of the eastern prairies into slivers of grass bordered by tire-beaten sod or mud.

I hope our descendants will have more to remember us by than the joy-riding scars we've left across the face of nature. There are many other trails more worthy of blazing. ■

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[2] *Ibid.*

[3] "Montana Historic Preservation Plan," Vols. I, II, III, Second Edition, July 1975, pp. 17, 31, 32.

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Contributors

The first decoys were probably mounds of mud fashioned along the shoreline to resemble waterfowl. Next, early man used bunches of dried grass supported on sticks or displayed dead birds. Then, decoys of a more permanent sort appeared. But the amazing fact is that for 2,000-3,000 years, man has been using decoys of some sort to lure wild fowl into range. The decoy survives as one of the truly American art forms, as **Larry Roberts** and **Roger Fliger** write, and some of the early carved versions are valuable antiques. Both Roberts and Fliger collect and carve decoys. Roberts manages The Art Market, Inc., in Great Falls, and Fliger is the department's supervisor for the Billings region. Special thanks to **Mike Stanish**, Great Falls, for his watercolor accompanying "Decoys: American Originals." The article begins on page 2.

Howard Hash opens his article, "Montana's Fur Trade: Living History," by noting, "The early fur trade and associated activities profoundly influenced the exploration, settlement and destiny of what is now Montana." He then traces the history of fur trading in the state—a chronicle rich with tales of grizzly bears, river exploration, battles with Indians, astounding successes and dismal failures. Although the fur industry has had its up's and down's, it has survived—and is probably Montana's oldest industry. Hash is the department's state fur biologist and he is presently headquartered in Missoula. Before joining the department, he was field supervisor for a four-year wolverine ecology study based in the Flathead River area of northwestern Montana. Turn to his article on page 7.

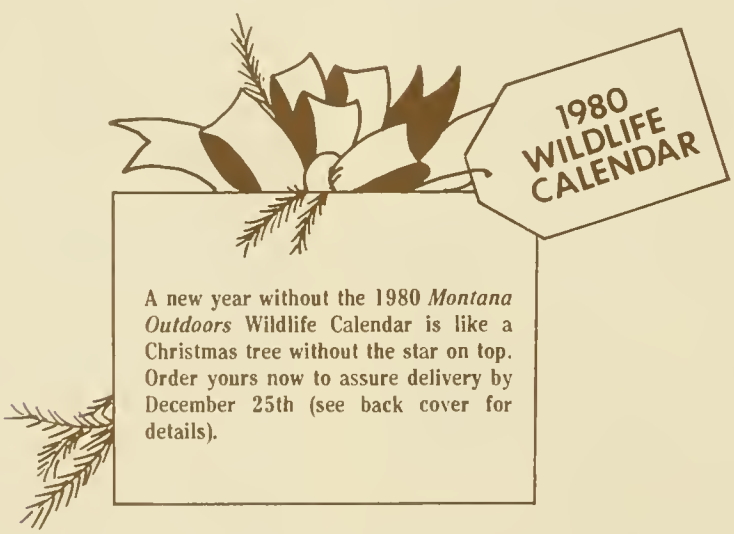
"Rich" is a word with many different shades of meaning. To some, it's merely a matter of dollars and cents in a bank account. But to a boy, growing up at the end of the Depression—with Thanksgiving just around the corner—"rich" is sharing a late fall hunt with his father. In that time and place, wild game was respected and regarded as both a divine and cherished gift. As **Ken Walcheck** writes, "Hunting and fishing were a happy blend of sport and economics." As he also notes, the best kind of feeling is when you are surrounded by riches you can't count—"The Richest of Hard Times." *Montana Outdoors* especially thanks **Kelly Vollrath**, Great Falls, for his poignant drawings which enhance Walcheck's recollections of a Thanksgiving more than 40 years ago. Walcheck is the department's information officer for the Miles City region. The article begins on page 15.

Alan G. Nelson's photographic skills have rewarded *MO* readers for many years. We are pleased to be able to publish a collection of his work in this issue. Turn to page 18 for "The Rewards of Observation."

Our nongame series continues, with **Vince Yannone**'s "Masters of the Air." Although many people don't realize it, seven gull species are found in the state—and they occasionally may even spend winters here. As Yannone writes, by noting differences in feet, bills and wing tips, all adult gull species in the state can be easily identified. He provides a handy chart to assist readers in doing so. Yannone, well-known for his work in schools and television, is the assistant chief of the department's Conservation Education Bureau. Turn to his article on page 21.

The names of some of the old trails—Bozeman, Mullan Road, Fort Shaw-Fort McLeod—evoke images of prairie schooners, bearded men and bonneted women crossing the prairies in search of the land the West promised. More than a century later, we can still see evidence of some of their trails. But as **Paul Pacini** writes, ". . . we are still carving trails across the relative wilderness of the West." Our all-terrain vehicular technology has enabled us to roll across the same prairies—seeing as much country in an hour as our ancestors could have seen in a day. This capability also allows us to leave even more and longer lasting scars across our landscape. "How Will They Remember Us?" is the question Pacini asks. Turn to page 24 for some answers. A new member of the department's Publications Advisory Board, Pacini is a warden in the Law Enforcement Division.

You can be in foul humor and he'll still lick your hand. You can smell like an old coat that hasn't seen the inside of a dry cleaner in 10 years and he'll still value your companionship. Truly, a dog is "More Than Man's Best Friend." He can also carry a pack, pull sleds, tree lions, retrieve ducks and point upland game birds. Turn to page 27 for a series of articles on this noble creature who has had a great deal to do with making man more human: "The Wolf's Domestication," by G. Wesley Burnett; "Backpacking with Dogs," by Dan Aadland; "Sled Dogs," by Dave Conklin; "Lion Hounds," by Bill Thomas; "Retrievers" and "Pointers" by Dave Books, and "First Aid" by T. W. Pearson. Burnett, formerly with the department's Parks Division, is an assistant professor in the Department of Recreation and Park Administration at Clemson University in Clemson, S. C. Aadland teaches English at Bridger High School, ranches near Absarokee and operates Aadland Communications, a professional writing service. Conklin is the department's parks manager for the Miles City region. Thomas is the department's information officer for the Missoula region. Books edits *Montana Outdoors*. Pearson is a veterinarian who operates the Green Meadow Animal Clinic in Helena.



A new year without the 1980 *Montana Outdoors* Wildlife Calendar is like a Christmas tree without the star on top. Order yours now to assure delivery by December 25th (see back cover for details).

photo: Dave Books

More Than Man's Best Friend: The Wolf's Domestication

OF ALL DOMESTIC ANIMALS, the dog has perhaps enjoyed the most enduring and mutually beneficial relationship with man. This relationship has stimulated inquiry by anthropologists and paleontologists alike, who have attempted to answer two fundamental questions: First, what is the origin and evolutionary history of the dog? Second, what effect has the dog had on the physical and cultural evolution of man? Answers to these questions are, of course, shrouded in prehistory and made all the more mysterious by numerous conflicting theories.

Charles Darwin concluded that the

domestic dog arose from a single species of the genus *Canis*, which includes, among others, dogs, jackals, wolves and coyotes. Because of the extreme variation among breeds, some researchers have challenged Darwin's conclusion. Attempts have been made to relate a number of wild canids (animals from the genus *Canis*) to the evolution of the domestic dog, and to attribute breed characteristics to different mixes of these wild canids. Recent research in the fields of genetics, animal behavior and comparative morphology and physiology, however, seem to sustain Darwin's original conclusion: that all domestic dogs derive from a single species of *Canis*. This conclusion does not dismiss the possibility that minor genetic crossbreeding involving several species of *Canis* has influenced the breed differences in the modern dog.

The leading candidate for the genetic precursor of the dog is the gray wolf (*Canis lupus*), a species originally found throughout North

America, Asia and Europe. Noted for their extreme variability in color, marking and size, the southern and central varieties of the gray wolf are now thought to be extinct over the majority if not the entirety of their original range. The southern varieties are (or were) considerably smaller and less aggressive than their northern cousins, and thus more adaptable to domestication.

Although the dog has been man's companion for thousands of years, its remains are not commonly found at archaeological sites. Dog remains dating back 11,000 years were first found in association with man at sites in Europe, the Near East and North America. It is impossible to determine if these dogs were truly domesticated or merely wild "camp followers."

The process of domestication, which probably occurred in Eurasia between 12,000 and 14,000 years ago, is not difficult to imagine. Small packs of primitive dogs no doubt roamed as scavengers with wandering bands of humans. These primitive dogs, particularly individuals less wary of and less aggressive toward man, were increasingly tolerated as they began to warn man of approaching danger and to assist in the hunt. In turn, the dogs depended more on man for food and shelter. Through the generations, this relationship of mutual benefit deepened until the dog emerged as a creature entirely dependent on man.

It is also possible that early man, admiring the hunting prowess of wolves, began to take pups from their dens for ritualistic purposes. Given the large variation in "personality" exhibited by wild wolves, it is possible that the more docile animals were eventually kept and domesticated.

What impact did the domestic dog have on man and his society? Since the dog did not become associated with man until the "Middle Stone Age," it couldn't have had much effect on man's *physical* evolution. The impact of the dog on man's *society* is a different matter, however. The dog enhanced man's security and vastly increased his efficiency as a hunter. Because of the dog, man undoubtedly faced starvation less often and was able to procure a greater variety of foods. As a result, man had more time and energy to direct toward invention, experimentation and social interaction. In short, the dog made man more human.

Man, however, was not content with the basic stock nature provided. Through selective breeding, he was able to modify the dog to better perform specific tasks; as time went on, he undertook this effort with increasing deliberation and care. By the advent of Egyptian civilization, the process was well-advanced. Ancient records from this period depict royal lion hunting dogs that closely resemble dogs of the modern Saluki breed.

So, through selective breeding, the dog was adapted to perform specialized functions in many different environments and the diverse breeds of modern dogs gradually evolved. Although the most obvious functions of today's canines are those of companion and pet, dogs still work beside man in many capacities. This working relationship perhaps reaches its highest expression in the dogs that assist man in his outdoor pursuits, which is the subject of the articles that follow.—*G. Wesley Burnett*

More Than Man's Best Friend: Backpacking With Dogs

On a short jaunt several winters ago up the Lake Fork of Rock Creek south of Red Lodge, Mont., I met a skier whose heavy pack and haggard look suggested he was nearing the end of a not-too-restful winter camping trip. Bounding at his side were two beautiful golden retrievers, bursting with vitality and enthusiasm, sharing none of their master's fatigue. I could not help asking why he didn't let the dogs carry part of the load. He gave me a half-surprised, half-resentful look, then said, "Well, they're just pets."

"Just pets" or not, I had to feel the animals were a bit out of place. Like a bare-backed 12-year-old on a family backpacking trip, they were not sharing in the muscular effort that was part of this wilderness experience. Their food had caused an added burden, and their carefree play had made "Dad" surly. Possibly, they had even been a nuisance to others on the trail. Yet each dog was capable of easily carrying 15 pounds, reducing its master's load considerably and, with a little training, each would do so willingly and with a sense of purpose.

With the rising popularity of nonmechanized outdoor recreation, interest in converting the "Alpoburner" into a genuine helpmate has soared. He's always been a fine companion, but he's also a fine athlete, and that boundless energy need not be wasted.

Many people assume that only a very large dog can carry enough to be of consequence. One well-known outdoor writer condescendingly dismissed the whole topic by saying, "You can even buy little packs for your dog in which he can carry his lunch." Bosh. Explorer Raymond Thompson tells of watching Indians in northwestern Canada dump 50 pounds of flour, half on each side, into the pack of a dog weighing little more than that, then heading off across the tundra.

Of course, we who venture outdoors for enjoyment—not to fight

tooth and nail for survival—have no need to risk a dog's health with such heavy loads. A safe load for a healthy, mature dog is 25% of his body weight. ("Mature" for large breeds is usually about 18 months; younger dogs should be packed very lightly.) With a dog conditioned by continuous packing, one could perhaps load up to 30% of the animal's weight. As concentrated as modern dog foods are, such a dog is carrying far more than his lunch. To the horse packer who deals in wall tents, sheepherder stoves and cast iron frying pans, a load of 20 pounds is insignificant. But to a backpacker trying to achieve comfort· measured in ounces, the dog's potential is substantial.

The bird hunter probably already owns an ideal backpacking dog. Retrievers, pointers and setters are excellent, and springers and Brittanies are by no means too small. Athletic ability is more important than sheer size. For instance, I would not choose a St. Bernard, although some do well. For backpacking, the only really hopeless dogs are the tiny beasts bred for city and apartment life; it's perhaps better that they stay in their intended environments. Most members of the American Kennel Club "working" group and many of the "non-sporting" group are well-suited. I backpack with a husky/Weimaraner cross (he looks like a Lab) and a big Alaskan malamute. The former has an edge in sheer energy and heat tolerance, the latter in brute strength and cold tolerance. Both love their work and carry their packs like badges of honor.

The pack itself should be sturdily constructed of canvas or heavy nylon. The tops of the bags should ride slightly lower than the dog's back, the weight supported by the cloth connecting piece. The strap running around the dog underneath should ride on the rib cage, not on the belly (some commercial packs must be altered by moving the strap forward). Another strap runs forward around the dog's chest and should fit high enough so it doesn't slip down around the dog's shoulder muscles. Buckles should be stout and padded to prevent gouging. An otherwise excellent sew-it-yourself pack by Frostline features Velcro instead of buckles, a slick system until dog hair clogs the Velcro or snow ices it so it won't grab. After much exasperation, I installed narrow, supplemental straps with buckles over the large Velcro closings.

If straps are used to close the packs, the top of each sack should have a drawstring, and each strap should have a buckle for adjustment and a harness snap to hook to a D-ring below. Dogs are wiggly, and threading straps through buckles each time a pack is opened is bothersome. Better yet is a wrap-around zipper like the one on the Frostline pack. Several D-rings should also be sewn on each side where the connecting piece meets the inside top of each bag. You can then lash a stuff-sack full of clothes on top (see list of dog equipment sources elsewhere in this article).

Training the dog to carry his pack is quite simple unless the animal is extremely shy. Load a few magazines into each bag, not enough to make a real load but with sufficient heft to prevent the pack from flopping around (each side must weigh the same). Set the pack in front of the dog, preferably in a controlled area such as the living room, and let him smell (but not chew) the fabric. Dogs rely more on scent than sight, so this step is important. When he has investigated thoroughly, put the pack on gently but casually, as if the whole thing is no big deal. He will probably act uncomfortable for a few minutes, then accept the pack; in rare cases, he may run (the reason for the enclosed area), lie down or bite at the pack. It's best to do something he enjoys at this point. If he loves to go for walks, take him—with pack—and you'll probably have a usable pack dog by the time you return.

At this point, begin his conditioning. Start with a fairly substantial load (perhaps 20% of his weight) for short distances, gradually increasing the distance. The dog should know he's loaded and know he's working. (These jaunts are ideal for strapping on one's own pack and getting in shape right along with the dog.)

Several rules apply to all packing: (1) The pack must be balanced. Load the bags as closely as you can by estimating weight, then watch carefully to see if one bag rides higher than the other. Reload some cargo into the lighter, higher bag or, if that is not convenient, place a small rock in the lighter bag. It is better for the dog to carry slightly more than for him to carry an unbalanced pack. (2) The inside of the pack must be smooth and soft with nothing protruding through the fabric. I load my dogs with tents, ponchos and clothing, although loading hard objects outside these soft items is okay. (3) The strap underneath the dog should be snug but not tight. The front strap actually determines where on the dog (front to back) the pack will ride; tightening it will only move the pack forward. The correct position is the same as that for the saddle on a horse.

When training and conditioning are complete, it's time to take the trip you've been planning since the "cabin-fever" months. The dog is likely to be as excited as you are and will wiggle with anticipation as you load him up. The food you take for him should be his regular brand—either dry kibble or compressed "burger" types work well. If he normally eats canned food, switch him long before the trip. You'll save money, and he won't starve, TV commercials notwithstanding. I carry the dog food in my pack rather than saddling Friendly or Smokey with such odoriferous temptations.

You must keep your dog under control on the trail. Some animals may require a leash. Trail courtesy demands that you yield to pack trains, and it's best to also yield to other backpackers. I stop my dog, make him sit and hold his collar while others pass. For every stranger who relishes someone else's dog licking his face, there are several who will be muttering unprintable things—with justification. Remember also that a pack dog, like a pack horse, measures clearance by his own body, not by his pack. A large dog rushing by with heavy packs can deliver a blow to a man's leg strong enough to knock him off the trail.

Your control must prevail in all areas of the dog's relationship with the environment, because the dog

has no ecological conscience of his own; you must impose yours. He must not be allowed to harass wildlife. A mad sprint toward a squirrel streaking up a tree may be innocent, but a chase after a deer, particularly in deep snow, can have a brutal outcome. Obviously, it's extremely dangerous for your dog to challenge a bear, particularly a grizzly. (Some writers say dogs attract bears. I suspect that a dog chained in camp will do more to repel bears and other creatures than attract them, but a dog will certainly be a liability if you meet a grizzly on the trail. If you travel backcountry that is true grizzly country, it might be best to leave the dog at home.)

Once in camp, control is again the rule. If your dog is extremely steady, it might be possible to leave him loose, but most dogs need to be tied. A perfectly pleasant evening in camp was pretty much ruined for me once because the retriever of some neighboring campers insisted on nosing into my cooking gear every time I turned my back. I finally had to get downright unneighborly. You can't allow uncontrolled rambling, because even if the environment and other backpackers don't need protection from your dog, the dog probably needs protection from them. Remember, you are relying on that dog for the next day's hike, and your concern for his health should equal that of a horse packer's for his stock's well-being.

The trip can be ruined when Rover returns with a snout and paw full of porcupine quills, drenched with blinding skunk juice or footsore from prickly pear. If your dog is a sweet soul who allows himself to be tied with a piece of poly rope, never chewing, treasure him. Chains are heavy and abrasive to vegetation in the tying area. Plastic-covered cables with swivels on the ends are better.

The dog's droppings should no more be left lying around than the backpacker's own. Never leave droppings on or near a trail and bury them away from campsites and water sources. (A light plastic scoop is helpful.) One of the nicest attributes of female dogs is their lack of need to mark each tree or bush with a calling card, something to consider when acquiring a dog specifically for backpacking.

Where fish and game laws allow, the sportsman can supplement the dog's diet with more tasty items. My dogs love fish heads and entrails, a great protein source one would otherwise bury. (Check first for embedded hooks.) Don't count on such food sources, and procure them responsibly.

Currently, many backcountry areas in the United States are closed to dogs, so check with the agency responsible beforehand. Perhaps it is the unladen, uncontrolled, irresponsible dog and his thoughtless owner who have caused such restrictions. The working dog who enjoys his life of purpose—whether herding sheep, guarding a family, pointing grouse, pulling a sled or packing gear—seems far more in harmony with man and his environment.—*Dan Aadland*

Sources of Dog Equipment

Nordkyn Outfitters, P.O. Box 1118; Moses Lake, WA 98837—packs and sled dog supplies

Wenaha Dog Packs, Dave and Lynn Chenette, P.O. Box 2081; Lynnwood, WA 98036—dog packs

Frostline Kits, Frostline Circle; Denver, CO 80241—sew-yourself dog pack, two sizes

Holubar Mountaineering, Ltd., P.O. Box 7; Boulder, CO 80306—dog pack in two sizes, sew-yourself or ready-made

Sporting Dog Specialties, Inc., Box 68; Spencerport, NY 14559—cables with swivels for tying dogs, plus other useful items

More Than Man's Best Friend: Sled Dogs

On Jan. 2, 1854, a party of men under Lt. Cuvier Grover of the 4th U.S. Artillery left Fort Benton, Mont., by dog sled to determine winter conditions between there and Walla Walla, Wash. By the time they reached Fort Owen at Stevensville, Mont., on Jan. 22, their rations had become so scarce that the dogs had eaten their harnesses, and the men were forced to eat pancakes made of flour and candle wax. Eventually, as the weather grew warmer, they abandoned their dog sleds and headed west on foot.

If these early dog sledders could have returned to Avon, Mont., on Dec. 30, 1978—125 years after their ill-fated expedition—they might have been a little surprised at what they saw: nearly 200 dogs and a group of sportsmen from all parts of Montana, Idaho, Washington, Oregon, California and Canada taking part in one of the newest sports in Montana—sled dog racing. Despite bone-chilling weather, these dog drivers, or "mushers" as they are called, gathered to try their teams in the first race of the season. Unlike the soldiers of 1854, however, these mushers returned home with extra dog food and cash prizes as well. And this time, only some automobiles were abandoned until warmer temperatures arrived.

Just what is this new winter sport that is coaxing an increasing number of dog lovers out into the silent, white Montana winter? When dog sledding is mentioned, most people still visualize Sergeant Preston of the Yukon and his 10 large, furry huskies tugging a freight-filled sled through

the frozen wilderness of the North. The fact is, though, snowmobiles and airplanes now carry freight where dogs once were the only means of transportation. Most sled dogs today are used only for recreation.

Just what is a sled dog? The old "Sergeant Preston" stereotype no longer holds true here, either. Although today's recreational sled dog may occasionally achieve a weight of more than 80 pounds and look like the *bona fide* version of the Alaskan malamute, more often he is a friendly, energetic 30-pound Siberian husky or, for that matter, any breed of dog that loves to run. Irish setters, Doberman pinschers, Labrador retrievers and various breeds of hounds and sheep-herding dogs are well-represented on sled dog teams. Currently, the most popular dog among sled dog racers is the Alaskan husky, a small dog developed in Alaska that combines the endurance and love for cold-weather running of the larger huskies with the lower food requirements of a smaller dog.

A mature, healthy dog can safely carry 25% of its weight on a backcountry trip. This Alaskan malamute is carrying a backpacking tent, a plastic ground cloth, two ponchos and a small bag of clothing (photo: Dan Aadland). Sled dog racing (below), a fast-growing winter sport, is attracting increasing numbers of dog lovers out into the silent, white Montana winter (DFWP photo: Dave Conklin).

These are only a few of the breeds that have adapted well to pulling sleds. No dog should be dismissed from consideration until tried. One of the fastest teams at the 1977 Big Sky sled dog race consisted entirely of dogs from the Bozeman animal shelter!

The next obvious question is: "Does one need to buy, feed and take care of eight or 10 dogs to participate in this sport?" The answer is an emphatic *no*. In fact, most mushers agree that beginners should attempt to train only from one to three dogs until they have the time, energy and especially the interest to do more. You can begin by buying or making an inexpensive harness and "tugline" to train your dog to pull you on skis, pull a sled or a toboggan or haul firewood.

Much of the fun of dog sledding is the feeling of accomplishment the musher gets when his training starts to pay off. Unlike a snowmobile, which requires only a pull of the starter cord, dogs are individual animals that must be trained to respond as a *team* to the voice commands of the driver. And, unlike snowmobiling, all the noise stops when you get under way.

Training a large, well-disciplined team requires skill and experience, because every additional dog multiplies the training difficulties. Generally, the fewer the dogs, the easier the training. Fewer dogs also provide a "bonus" of sorts for the trainer, in that he or she can't ride the sled when climbing steep hills, thereby necessitating large amounts of healthy exercise.

Some trials and tribulations are inherent in this muscle-powered

mode of transportation, of course, but these provide the real challenge in dog sledding. When the snow has a weak crust, dogs break through and tire rapidly. Dogs also flounder in soft snow, and the driver often has to go ahead on snowshoes to prepare a trail. On warm days, the driver must stop frequently to let the dogs cool off. On bitterly cold days, snow may have to be brushed from the dog's eyes and boots may have to be put on their feet to protect them from sharp ice. Sooner or later, two dogs will start to fight, the whole team will chase a squirrel or rabbit or the sled will burrow into a snowdrift.

The advantages of dog sledding, however, far outweigh the disadvantages. A nine-dog team can average 30-40 miles a day, pulling 500 pounds for weeks at a time. Unlike mechanical contraptions, dogs always start, no matter how cold. They have no starters or clutches to wear out and if one dog gets tired, the others will still pull. Dogs also instinctively avoid weak ice and bad spots in the trail, making sledding a safe way to tour the countryside. Frostbite is rare among dog mushers, since they do not build up enough speed to become windchilled, and handling dogs means getting on and off the sled—riding for awhile, then running behind. Even fingers are constantly moving while sledding. Because dog sledding is a relatively quiet means of transportation, mushers can fully enjoy the serenity of the winter landscape.

But most of all, sled dogs love to run. Almost any command will do to get them under way, although "hike" is usually preferred. The hardest command to teach is "whoa" and a full stop is rarely achieved without use of a brake.

Although most mushers who have been "bitten by the bug" work their way up to kennels of 10-20 dogs, one or two will do fine for weekend outings during the winter. All you need are dogs that like to run, a few pointers on training and a minimal amount of equipment.

An important part of any recreational experience is getting together with friends to share ideas and learn new techniques. One of the best ways to do this and the most exciting introduction to the world of sled dogs is to attend a sled dog race. Many mushers gather annually at these events to trade dog stories, compare equipment, swap animals and, naturally, to race.

Races are usually conducted in small towns in conjunction with snow festivals and winter carnivals. They are often sponsored by snowmobile clubs and local merchants who lay out trails anywhere from a quarter-mile to 180 miles long, for classes ranging from one dog to an unlimited number.

Purses of over $1,000 have been offered at races in Montana, and up to $20,000 in other states. Sled dog races are also becoming very popular in Europe. In response to this interest, the International Sled Dog Racing Association has tried to standardize rules and regulations for racing and weight-pulling contests.

But whether they race, play, camp out or tour the "silent white," Montana's mushers agree that dog sledding is now, more than ever, a great way to enjoy a Montana winter.—*Dave Conklin*

More Than Man's Best Friend: Lion Hounds

The dog may be man's best friend—but since the beginning of time, it has been the cat's worst enemy. In western Montana, this classic confrontation reaches its ultimate form when the feline pursued—the mountain lion—is the largest cat in North America.

Over the years, careful breeding has resulted in a specialized four-legged critter adapted to lion hunting in the rugged mountain country of the West. The lion hound has earned the respect and admiration of houndsmen the world over by performing tirelessly and courageously in this dangerous occupation. A keen, persistent hunter, the lion hound combines the constitution of a Roman soldier with the nose of a French connoisseur. Any houndsman will tell you his dogs live for the chance to run a big cat. They were bred to hunt, to work and to fight, and they love to do just that. But let's take a look at a typical working day for a pack of lion hounds:

From the moment the cabin lights come on, the hounds nervously strain at their chains. Their keen noses tune into the fragrance of bacon frying on the wood-burning stove. They know the time has come, and last night's snowfall ensures it will be a perfect morning for cutting a track. Up the mountain valley they go, tugging all the while on heavy leashes—a sniff here, a sniff there. Unlike their master, whose perception of events is restricted largely to what he can see and hear, the hounds wring from the surface of the ground the lingering scent of each animal that has trod there. When the animal is a lion and the track is fresh, the watery eyes of the old lead hound light up and he sends his hoarse bark ringing through the trees and echoing off the canyon walls like a trumpeter marshaling the troops to battle.

With the unsnapping of the metal leashes, the dogs are off and on their own. Bounding through the deep, powdery snow is a test of endurance,

but the scent of the cat provides a driving force that can't be denied. As the scent grows stronger, the hounds' bawling increases in volume and frequency. The hound music and excitement suddenly crescendo as the cat bolts from its bed. The roar of the barking dogs, which has marked the steady progress of the chase, has now stopped on a ridge and the sonorous baying has turned into urgent yelping. The hounds are all around the base of an old ponderosa pine, leaping into the air, circling, bawling and clawing at the tree in frenzied excitement, announcing "Treed." (In Montana, the bobcat and mountain lion are the only game animals legally huntable, under regulated conditions, with dogs.)

Rarely is a chase as classic as the one described above. But the credit for success belongs to the hounds. The history of the lion hound in America is not fully known, but the breed probably originated as a result of crosses between bloodhounds and foxhounds. Bloodhounds were imported from England in the early 1600s, not as hunting stock, but to protect the American colonists from hostile Indians. Historical records indicate Hernando de Soto had a pack of hounds—probably foxhounds—with him on his expedition to the Mississippi River more than 50 years earlier. As early as 1700, the Virginia colonists were attempting to breed a dog better suited for catching raccoons, bears and wildcats.

Because accurate records of early crosses were rarely kept, the lineage of today's lion hounds cannot be accurately traced. The breeders making the crosses established standards to meet their needs. After years of selective breeding, the various hound strains evolved and eventually became known as redbones, blueticks, black-and-tans and others. Today the American Kennel Club recognizes 22 breeds and varieties of hounds. They are divided into two general categories: Those that hunt by scent, such as beagles and bloodhounds, and those that hunt by sight alone, such as greyhounds and wolfhounds.

Black-and-tan hounds were extremely popular with frontiersmen. Daniel Boone and Davey Crockett were reported to have spent much of their time following their packs of black-and-tans. Crockett maintained his dogs would grab the devil by his tail if he told them to! Favored for its grit, the black-and-tan hound typically wears a glossy, jet black saddle over a predominantly tan body; mahogany dots over the eyebrows; long, velvety ears; keen, penetrating eyes, and a whip tail carried proudly over the back.

As one might expect, the redbone hound is red—but not all reddish hounds are truly of this type. Redbones are cherished for a distinctive pleading expression in the eyes and a sweetness and "come on" in their voices that are pleasant to the ear. The redbone is touted as the most uniform of the coonhound types in color, form and facial expression.

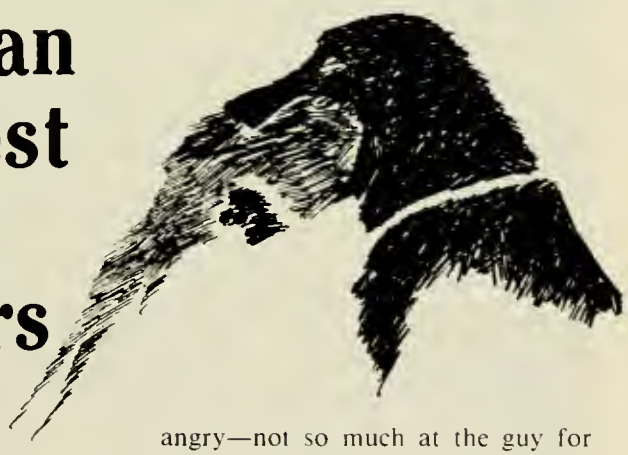
The bluetick hound, with an excellent reputation as a lion dog, lacks uniformity in coat color, size and voice. Although color varies from black-and-white-ticked to tricolor-ticked and even to red-and-white-ticked, the preferred color is dark blue spotted with black.

Lion hunters are often indifferent to the characteristics that most dog breeders care about. The way a hound looks just doesn't tell the whole story—it's the way he performs on the trail of the long-tailed cat that counts.

The challenge of the chase nurtures a strong bond between the houndsman and his dogs. These men, however, are not only dedicated to their hounds, but also to the mountain lion. Houndsmen were among the first to show an interest in managing the mountain lion as a game animal, rather than treating it as a villainous predator worthy only of extermination.

Today, much to the credit of houndsmen, the mountain lion is afforded the same protection and management provided other game animals in Montana. Thus, through its master's concern for the mountain lion's future, the lion hound may actually be the big cat's best friend—not its worst enemy.—*Bill Thomas*

More Than Man's Best Friend: Retrievers



At first I didn't believe the Missoulian article when it said a hunter had nearly drowned while attempting to retrieve a duck at a wildlife refuge in the western part of the state. As I read on, I was mildly amused, thinking of the interesting spectacle a hunter would make swimming along with a duck in his mouth. But it's hard to laugh too hard about someone nearly drowning, and I'm sure the rescuer who had to jump into the icy water didn't think it was funny at all. By the time I finished the article, I was serious again and also just a little bit angry—not so much at the guy for trying to retrieve his duck, which was the ethical thing to do, but at hunters in general who will shoot ducks when they don't have a snowball's chance of retrieving them. There is, after all, a simple and inexpensive gadget on the market especially designed to solve this problem: It's known as a retriever.

Retrievers come in several shapes and sizes, but good ones all have one thing in common: They are eternally grateful to the kindly chap who lets them swim through cold water all day picking up ducks or geese.

Sounds like a masochistic pastime, but you have to remember they spend their formative years in the company of people whose idea of a good time is hunkering in a frozen duck blind with a snowstorm howling in from the North.

Many retrievers also make excellent upland bird dogs, finding and flushing birds and delivering them to hand. They are particularly effective on pheasants in heavy cover, forcing wily old roosters to take wing that would run forever in front of a pointing dog. But it is in the retrieving of waterfowl that they excel, especially in the cold and arduous conditions of late fall. And it is for that purpose that they have been selectively bred for the past 150 years or so.

Although spaniels were used for flushing birds for their masters' hawks and falcons as far back as the 14th century, it is doubtful these dogs saw much action in the way of retrieving. By the late 1400s, poodles were pressed into service for retrieving birds presumably downed by bow and arrow. But retrieving as a specialty didn't make much headway until the advent of the firearm in the 17th century. As the quality of firearms improved, the need for better retrievers grew, and by the early 1800s, development of the retrieving breeds was off and running.

The retrieving instinct has been honed to perfection in only a few breeds, although it is present to some degree in many dogs. The American Kennel Club (AKC) recognizes only six breeds as eligible for retriever trial competition: the Labrador, golden, Chesapeake Bay, flat-coated and curly-coated retrievers, and the Irish water spaniel.

The American water spaniel, developed in the Midwest for hunting in both wetlands and uplands, is considered too small to compete in field trials with the bigger breeds. Although often an excellent retriever, the English springer spaniel is a bird flushing specialist and not formally included in the retriever group. Because working specimens of the flat- and curly-coated retrievers and Irish water spaniel breeds are rarely seen these days, the prospective retriever owner can ordinarily limit his choice to one of three major breeds: the Lab, the golden or the Chesapeake. Of these, the Lab is the hands-down favorite, accounting for perhaps three-fourths of the working retrievers in the United States. The golden is second in popularity and the Chesapeake third.

Early records show the Labrador originated in Newfoundland from a smaller variety of the Newfoundland breed. Originally called the "St. John's breed," it became known as the "Labrador" some time after its introduction into England in the 19th century. Examples of the breed began to show up in the United States in the early 1900s, and the first official, registered AKC Labrador

Pointing dogs (below), which specialize in finding and holding upland game birds until the hunter can arrive to flush them, are becoming increasingly popular with western bird hunters (photo: Jon Cates). Owning a trained retriever will add greatly to your hunting success and enjoyment, especially during cold weather waterfowling (right, photo: Dave Books). This bluetick hound (far right) is announcing to the world that he's hot on the trail of the biggest cat in North America—the mountain lion (photo: Gary Power, Idaho Department of Fish and Game).

arrived here in 1917.

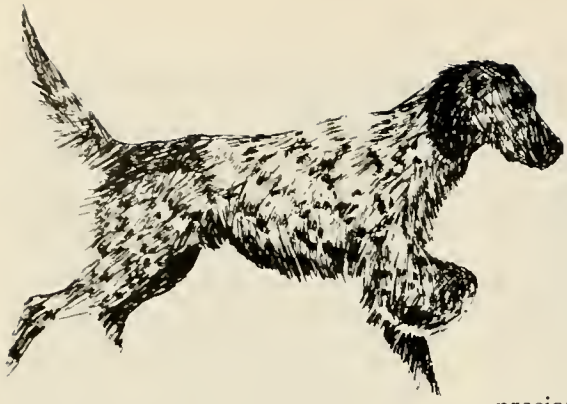
The reason for the Lab's great popularity is that it combines strength and endurance with trainability and a gentle disposition. A fast, strong swimmer, the Lab is big and tough enough to withstand the harshest late-season waterfowling conditions, yet gentle enough to make a good family dog and household pet. Labradors come in three color variations—black, yellow and chocolate—although blacks are by far the most common.

The golden retriever is perhaps the most beautiful of the retriever breeds, but it is not as strong a swimmer as the Lab or Chesapeake, nor as well-equipped to handle rough or extremely cold water. Its long, silky coat can be a nuisance in upland situations where burrs abound. However, the golden has an excellent disposition and a keen nose and serves admirably as a combination upland bird, waterfowl and family dog.

The only all-American breed among the retrievers, the Chesapeake is a big, rugged dog, originally developed by market hunters for battling the icy surf of Chesapeake Bay. It is undoubtedly the toughest of the retrievers, but it has the reputation of being hardheaded and difficult to train. It also tends to be a one-person dog, and may not make as good a family pet for that reason. But if you want a strong, thick-coated dog that can retrieve waterfowl day in and day out under the worst of conditions, the Chesapeake is a natural choice.

Whatever your choice of breed, owning a trained retriever will greatly increase the number of birds you take home and add immeasurably to your hunting enjoyment. In these days of reduced bag limits and restricted seasons, no one can afford to waste game. With the aid of a good retriever, you can be the ethical sportsman you should be—without nearly drowning in the process.—*Dave Books*

continued



More Than Man's Best Friend: Pointers

The brace of English setters, quartering like perpetual motion machines into the wind, skidded to a sudden stop. Two hunters walked up quickly from the rear, one on each side of the rigid dogs. As they passed, shotguns at the ready, birds exploded from the cover in front of them.

A scene from a southern quail plantation? A Vermont grouse covert? No, a scene from a Montana grassland, and the birds were Hungarian partridge. This scenario, with a varying cast of characters, is being repeated with increasing frequency in Montana—a state renowned for its big game hunting, but which also happens to have eight species of upland game birds.

Pointing dogs, long favored by quail hunters in the South and by grouse and woodcock hunters in the East, are becoming more and more popular with western bird hunters, who are rapidly learning to appreciate the more relaxed approach to upland bird hunting that the pointing breeds allow.

Two distinct categories of pointing dogs are commonly used in the United States today. The first group includes the English pointer and the English setter, Irish setter and Gordon setter, dogs which came to this country from the British Isles before the 20th century. The second group, relative newcomers which have boomed in popularity in recent years, is comprised of the "continental" or "versatile" hunting dogs. This group includes the German shorthaired pointer, German wirehaired pointer, wirehaired pointing griffon, Weimaraner, vizsla and Brittany spaniel. The Brittany and the griffon originated in France, the vizsla in Hungary and the remainder in Germany. The continental breeds were bred in Europe to work close to the gun and, indeed, that was the original reason for their introduction into this country. However, some strains of these dogs are now bred to range wider for field trial competition, thus making it difficult to generalize about the hunting habits of any given breed.

The function of the pointing dog is to point and hold birds until the hunter can arrive and flush them. For this reason, pointers are usually encouraged to work beyond gun range, especially in open terrain where they can be easily seen. Except for the pointing instinct—the common denominator of all pointing dogs—the breeds vary widely in size, appearance, hunting style and aptitude for retrieving. The prospective pointing dog owner should acquaint himself with characteristics of the various breeds and attempt to pick the one best suited to his particular climate, terrain, available bird species and hunting conditions.

Let's begin with the English pointer and the setters. The English pointer is a short-haired, long-tailed dog of medium build that specializes in ranging far and fast to locate birds. It works especially well on quail and prairie grouse in open country, but can also adapt well to pheasants and chukars. The pointer is not a natural retriever but can be trained to do an acceptable job.

Of the three types of setters, the English has the best reputation today as a hunting dog. Long-haired, with a long "feathered" tail, setters usually work best in country where they can stretch their legs, although some strains have been bred for hunting grouse, woodcock and pheasant in close quarters. Like English pointers, English setters are not enthusiastic retrievers, but can be force-broken to retrieve. Because Irish and Gordon setters have been bred almost exclusively for the show ring in recent years, it is now difficult to find good hunting stock.

Of the continental gun dogs, the German shorthaired pointer and the

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Brittany spaniel are far and away the most popular breeds. Both tend to be close-working, thorough hunters, good swimmers and enthusiastic retrievers. The German wirehaired pointer closely resembles the shorthair in size and coloring, but has a longer coat and can thus better withstand the rigors of hunting in cold weather. The Brittany spaniel, a small, setter-like dog with a short tail, is the only spaniel that points. Its compact size (30-50 pounds) makes it suitable for keeping in the house and it is a good family dog, responding better to gentle handling than to harsh discipline.

Although the continental breeds are sometimes touted as "all-purpose" dogs, no one type of dog can claim this distinction. The continental breeds excel at pointing and retrieving upland game birds for the foot hunter, but do not have the speed and style of the wide-ranging English pointer and setter in locating quail in open country. While the continental breeds are good retrievers under most conditions, they lack the drive and endurance of Labs and Chesapeakes for retrieving waterfowl in rough, cold water.

Every breed has its strong points and its limitations, but one thing is certain—whatever your location or bird hunting specialty, somewhere in the complex array of gun dogs is one that will suit your needs. It comes down to a matter of personal preference. But seeing a statuesque pointer lock up on a covey of birds has to be among the most heart-stopping moments in the world of upland bird hunting.—*Dave Books*

More Than Man's Best Friend: First Aid

With the rising interest in outdoor activities such as backpacking, trail riding, dog sledding and bird hunting, more and more people are taking their dogs into the field. Whether the dog is an integral part of the activity, as in sledding and hunting, or merely taken along for companionship, the dog owner should be prepared to give first aid if the need arises.

Before heading into the woods, make a list of items needed for your pet while making preparations for your own needs. Remember to take plenty of food; his metabolic needs may double if he is exercising heavily. This is *not* the time to change his diet; diarrhea from sudden food changes has ruined many trips. Don't restrict him to one heavy meal if he needs to increase his food intake; instead, offer him small amounts frequently.

If you are packing into an area with limited or no water, be sure to include enough water for your dog's needs. Heat prostration can be not only a problem for you, but also for your dog. The dog's only sweat glands are in his foot pads. If the dog seems to be in distress or if he suddenly refuses to move, he might be suffering from heat prostration. Bathe him in water as soon as possible and allow him to rest in the shade until his body temperature returns to normal.

Be sure to bring along needle-nose pliers with a side cutter. Fishhooks can often be removed from a tractable dog by the owner. Push the fishhook all the way through, snip off the barb and pull it back out. If the dog swallows a fishhook with leader attached, do not try to pull it out, but rather tie the end of the leader to his collar so it cannot progress any farther. Then, walk out for assistance. More dogs are lost from ingested leaders than from hooks. The pliers will also come in handy if your dog encounters a porcupine. Remove the quills from his feet and bring him out for help.

If you notice your dog limping, the first thing to look for is grass seed between his toes. Seeds often lodge deep in the pockets between the toes and will work their way through the skin unless removed. Grass seeds also work their way into the ears, eyes and nose; professional help is needed to remove these.

Cut pads bleed profusely but rarely are as serious as they might seem. The important thing is to curtail bleeding, and this is easily accomplished with a pressure bandage. Remember, you are attempting to apply pressure to the wound only; do not make it so tight as to cut off the blood supply to the foot or leg. The bandage may need to be kept in place for 24-48 hours; the dog needs complete rest during this time to keep his blood pressure down.

Snakebites are often not serious in dogs. If any rapidly expanding, painful swelling occurs, especially on the face, snakebite should be suspected. Suction cups from your snakebite kit will not work on the dog's hairy skin and it is doubtful he would allow you to cut into the bite area deeply enough to remove the venom anyway. Seek professional help, even if the swelling begins to subside by the time you return home. Secondary infections from snakebite frequently occur, and these can be more of a problem than the bite itself.

Remember, if your animal is injured, stop and think a moment. You can successfully treat many injuries yourself if you have the necessary materials. Treat your dog as the outdoors companion he is and both of you will enjoy yourselves.—*T. W. Pearson, D.V.M.*

photo: Jon Cates

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